sumida

# 2005 GENERAL PRODUCTS CATALOG

総合カタログ

SUMIDA CORPORATION

# GENERAL PRODUCTS



## NEW PRODUCTS



## PRODUCTS



- ☐ Specifications in this catalog are subject to change without notice. It is requested to confirm the specifications when ordering.
- ☐ Any dimensions without tolerance is typical value.
- ☐ Sumida declares that any ozone depleting substance is not used in the all coil manufacturing process.
- ☐ We recommend to use resist to protect from solder bridge.

## Scope of Sumida products

1. Sumida components are manufactured and promoted for use in general AV electronics, home appliances, OAs, communications, measurement equipments and machine tools.
2. In the event the product is used in aerospace equipment, medical equipment, transportation equipment, disaster preventing equipment, or an equivalent which may affect human health or property, please do not fail to consult with our business headquarters, branch or business office.
   When the suggested recommendations are not heeded, Sumida Group shall not be held liable for any dysfunctious in or damage to the equipment with which the product is used.
3. In the event a problem occurs which may affect industrial property and any other rights of Sumida Group (or a third party) during the use of the product and information described in this catalog, Sumida Group shall not be held liable for any such problem, nor grant any license to the offending party.

## General stipulations for coil use

1. Products should not be kept in unsuitable storage conditions, such as areas susceptible to high temperatures, high humidity, dust or corrosion.
2. Always handle products with care.
3. Don't touch electrodes directly with bare hands as oil secretions may inhibit soldering.
   Always ensure optimum conditions for soldering.
4. Don't bend the terminals or subject them to excessive stress.
5. Please ensure that all terminals and case lugs are completely fixed with solder onto PCB.
6. Ensure the tuning slug or cap is not fixed by solder flux during the production process.
7. Refrain from rinsing coils. If necessary, please consult with our company.
8. Avoid placing coils near the edge of the PCB.
9. Our SMD coils are designed for automatic mounting. Please be careful if soldering by hand.
10. Don't touch any exposed winding part and avoid coming into contact with the guide of electrode in automatic mounting.
11. Our specification limits the quality of the component as a single unit.
    Please ensure the component is thoroughly evaluated in your application circuit.
12. When using our high voltage inverter transformers, place 2mm away from the electric conductor.
13. About Lead-free Products
    · Lead-free products are now available for sale
    · To order a lead-free product, please add "NP" after the product type:
    e.g. Ordering code of lead product: Type name-△△△○×
    Ordering code of lead-free product: Type name NP△△△○×

# Power Inductors <SMD Type>

NEW PRODUCTS

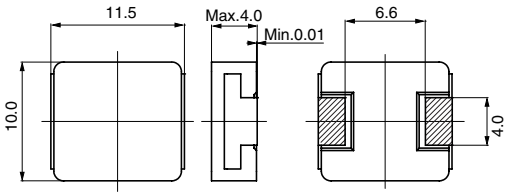
## ■ OUTLINE

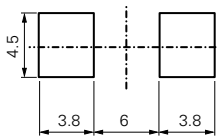
By using the square wire, power inductors can de used for large current with low profile and low resistance.

## CMCM104

● DIMENSIONS(mm)

● LAND PATTERNS(mm)




PROVISIONAL

### ● SPECIFICATIONS

| Part No. | Inductance | D.C.R.(Ω) Max. (Typ.) | Saturation Rated Current (A) (at 20℃)※1 | Temperature Rise Current(typ)(A) ※2 |
|---|---|---|---|---|
| CMCM104 | 0.36μH±20% | 1.20m | 37.0※1 | 27.0 |

※1: Saturation Rated Current:The current when the inductance becomes 20% lower than its intial value.
※2: Temperature Rise Current (Typ.):The actual current when temperature of coil becomes ΔT=40℃ (Ta=20℃)

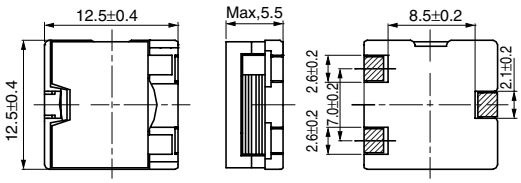
## ■ OUTLINE

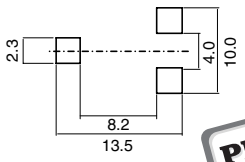
By using the square wire, power inductors can de used for large current with low profile and low resistance.

## CDEP125ME

● DIMENSIONS(mm)

● LAND PATTERNS(mm)




PROVISIONAL

### ● SPECIFICATIONS

| Part No. | Inductance | D.C.R.(Ω) Max. (Typ.) | Saturation Rated Current (A) (at 20℃)※1 | Temperature Rise Current(typ)(A) ※2 |
|---|---|---|---|---|
| CDEP12SMENP-0R3MC | 0.3μH±25% | 1.00m | 40.0 | 21.0 |
| CDEP12SMENP-0R7MC | 0.7μH±25% | 1.70m | 32.0 | 20.0 |
| CDEP12SMENP-1R2MC | 1.2μH±25% | 2.60m | 25.6 | 17.5 |
| CDEP12SMENP-2R0MC | 2.0μH±25% | 4.10m | 20.4 | 13.5 |
| CDEP12SMENP-2R9MC | 2.9μH±25% | 6.30m | 16.0 | 11.5 |

※1: Saturation Rated Current:The current when the inductance becomes 20% lower than its nominal value.
※2: Temperature Rise Current (Typ.):The actual current when temperature of coil becomes ΔT=40℃ (Ta=20℃)

About CMCM104, DCEP125ME
※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

# Inductors for Low Profile

NEW PRODUCTS

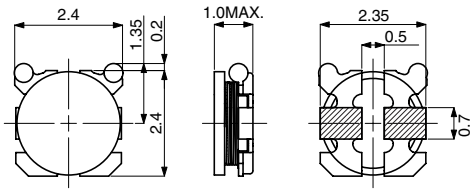


## ■ OUTLINE

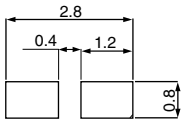
This is low profile type of power inductor for portable equipment.
It is suitable for a DC/DC converter power supply with height restrictions.

### CDH2D09/S CDH2D09

● DIMENSIONS(mm)



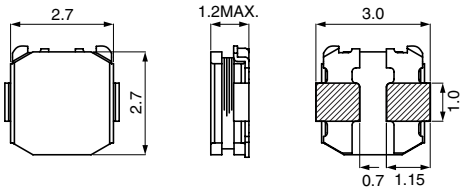

● LAND PATTERNS(mm)



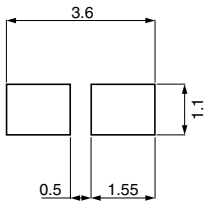

PROVISIONAL

### CDH3D11/S CDH3D11

● DIMENSIONS(mm)



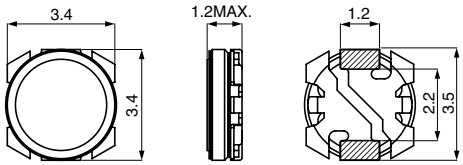

● LAND PATTERNS(mm)



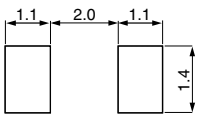

PROVISIONAL

### CDSH3D11/S CDSH3D11

● DIMENSIONS(mm)




● LAND PATTERNS(mm)




PROVISIONAL

## ● SPECIFICATIONS

| Part No. | Inductance | D.C.R.(Ω) Max. (Typ.) | Saturation Rated Current (A) (at 20℃) | Temperature Rise Current(typ)(A) ※4 |
|---|---|---|---|---|
| CDH2D09/S, CDH2D09 | 4.7μH | 456m (380m) | 380m※1 | 630m |
| CDH3D11/S, CDH3D11 | 4.7μH | 504m (420m) | 850m※2 | 560m |
| CDSH3D11/S, CDSH3D11 | 4.7μH | 219m (175m) | 660m※3 | 840m |

※1: Saturation Rated Current:The current when the inductance becomes 25% lower than its nominal value.
※2: Saturation Rated Current:The current when the inductance becomes 10% lower than its initial value.
※3: Saturation Rated Current:The current when the inductance becomes 35% lower than its nominal value.
※4: Temperature Rise Current (Typ.):The actual current when temperature of coil becomes ΔT=40℃ (Ta=20℃)

About CDH2D09/S CDH2D09, CDH3D11/S CDH3D11, CDSH3D11/S CDSH3D11
※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

# Inductors Corresponding High Temperature

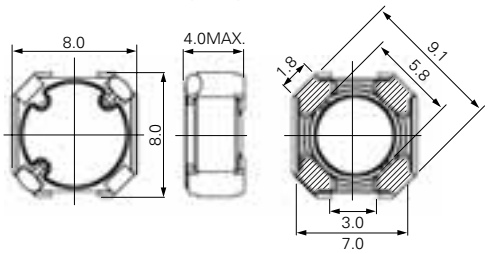
NEW PRODUCTS

## ■ OUTLINE

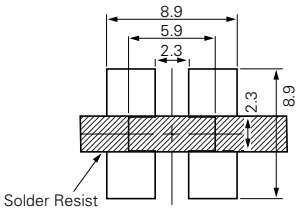
The operating temperature range is a maximum of 125 degree,
and the inductance range is 10～470uH.
It matches as power inductor for DC/DC converters
corresponding high temperature.

## CDRH8D38/A

● DIMENSIONS(mm)



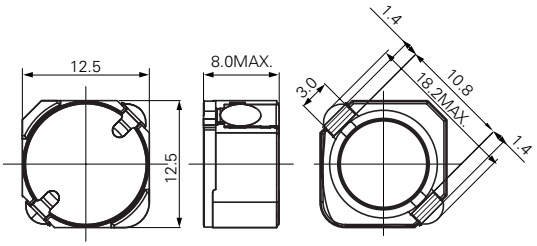

● LAND PATTERNS(mm)



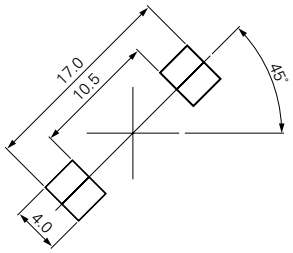

PROVISIONAL

## CDRH127C/A

● DIMENSIONS(mm)




● LAND PATTERNS(mm)



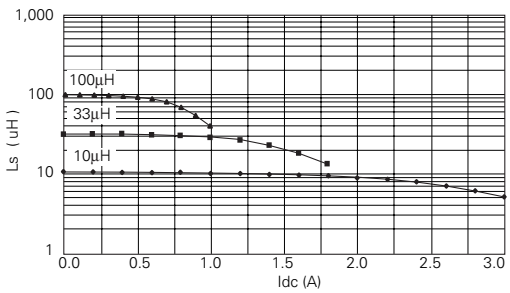

● Inductance Range

| |
|---|
| CDRH8D38/A : 10μH-100μH |
| CDRH127C/A : 10μH-470μH |

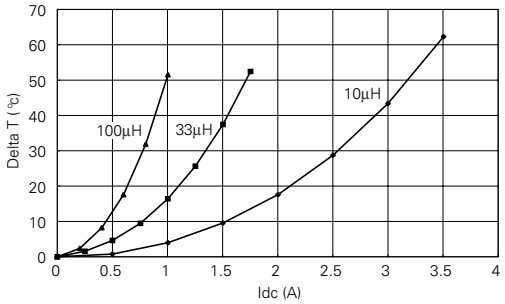
● Characteristics

## CDRH8D38/A

Saturation Current

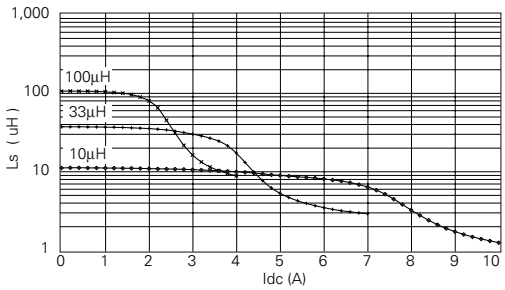



Temperature Rise

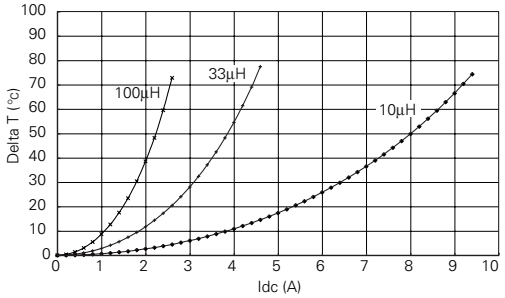



## CDRH127C/A

Saturation Current




Temperature Rise




About CDRH8D38/A

※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

# Hybrid Power Inductors

NEW PRODUCTS

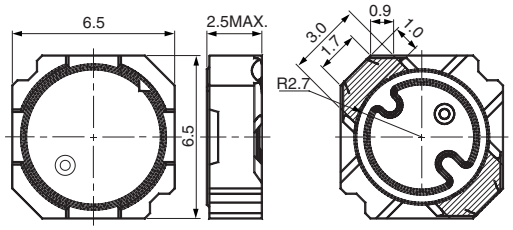


## ■ OUTLINE

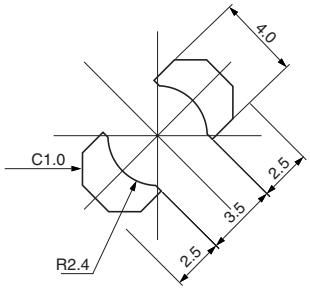
The combination of the Mn ferrite core and the Ni ferrite core achieves the large current and the smaller volume approximately 18% as compared to previous type.
The series has the foot print lineup of 6 mm, 7 mm, and 10 mm square, so the lineup matches power supplies for potable PCs, DVCs, DSCs, LCD-TVs, and low profile type on-board power supplies.

## CDR6D23MN

● DIMENSIONS(mm)

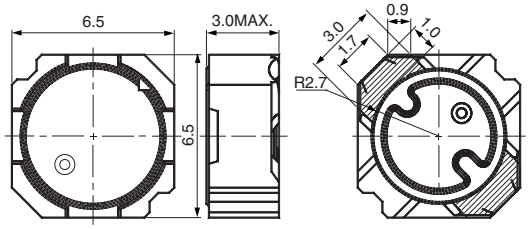



● LAND PATTERNS(mm)

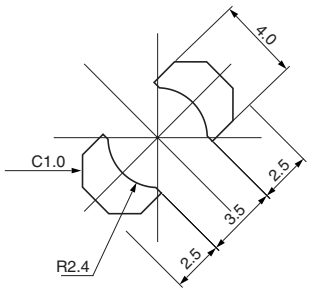



## CDR6D28MN

● DIMENSIONS(mm)

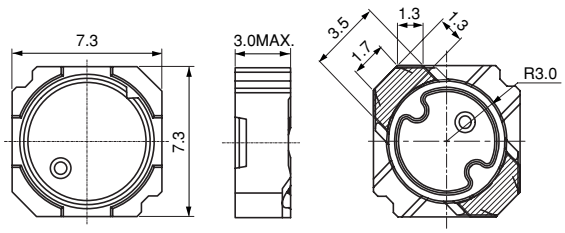



● LAND PATTERNS(mm)

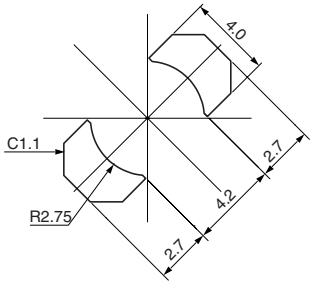



## CDR7D28MN

● DIMENSIONS(mm)

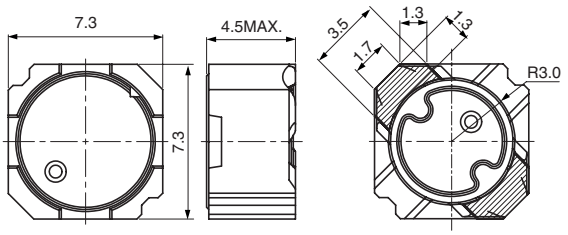



● LAND PATTERNS(mm)

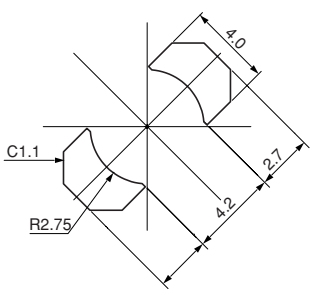



## CDR7D43MN

● DIMENSIONS(mm)




● LAND PATTERNS(mm)



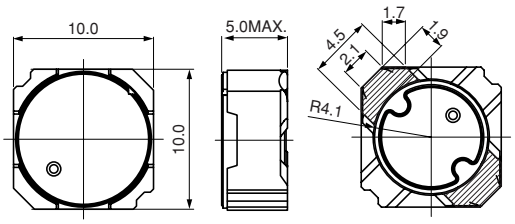
# Hybrid Power Inductors

NEW PRODUCTS

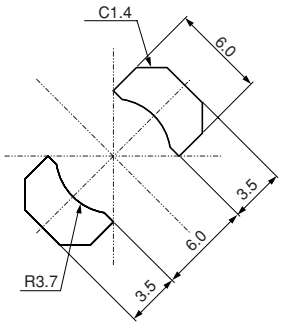
## CDR10D48MN

PROVISIONAL

● DIMENSIONS(mm)




● LAND PATTERNS(mm)

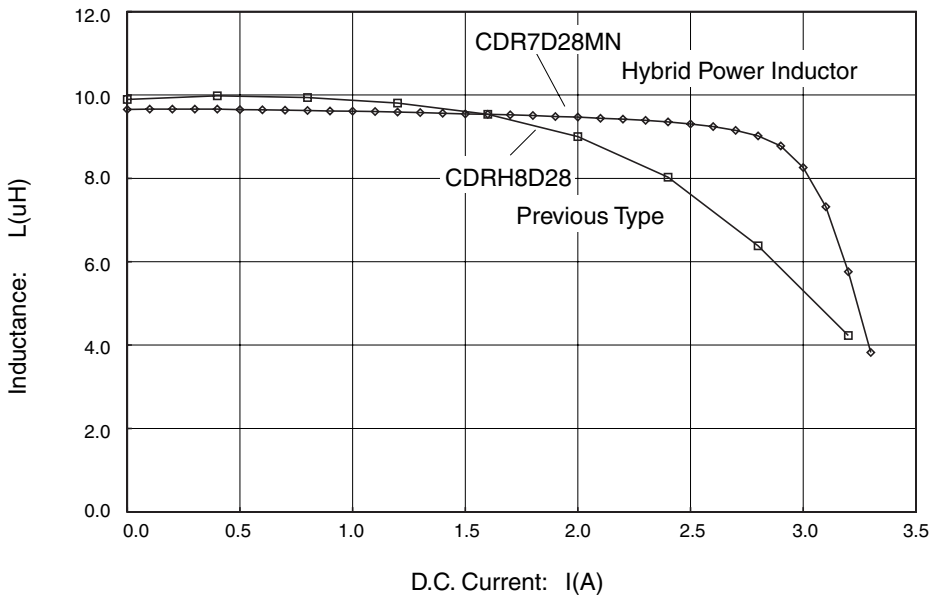



● Inductance Range

| | |
|---|---|
| CDR6D23MN | : 2.0μH - 100μH |
| CDR6D28MN | : 1.5μH - 120μH |
| CDR7D28MN | : 1.2μH - 470μH |
| CDR7D43MN | : 3.7μH - 100μH |
| CDR10D48MN | : 2.4μH - 120μH |

※Mesurement frequency of inductance : at 100kHz

Saturation Current




About CDR10D48MN

※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

# Double Flat Winding Inductors

NEW PRODUCTS



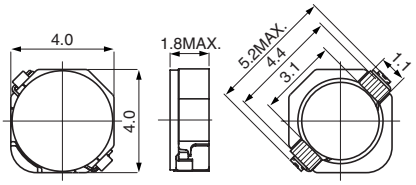
## ■ OUTLINE

It is suitable for the power inductor for chopper circuit of DC/DC converters for the power supply of portable equipment.
Having adopted double flat winding technology, it is a product which corresponds to a low profile power supply model with lower DCR demand for DVC.e.t.c.

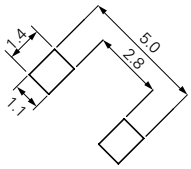
## CDRH4D16FB

PROVISIONAL

● DIMENSIONS(mm)

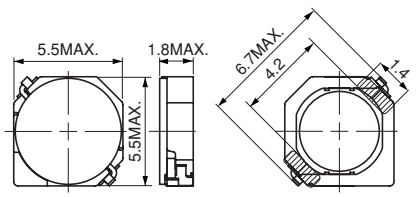



● LAND PATTERNS(mm)

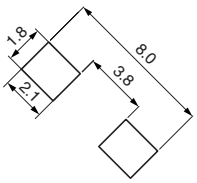



## CDRH5D16F/LD

● DIMENSIONS(mm)

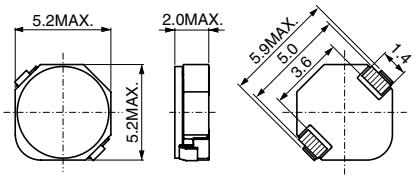



● LAND PATTERNS(mm)

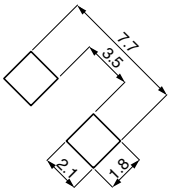



## CDPH4D19F

● DIMENSIONS(mm)



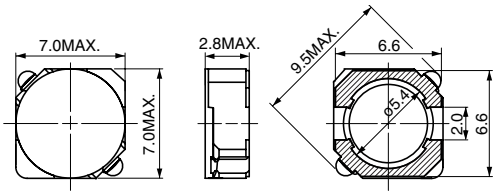

● LAND PATTERNS(mm)



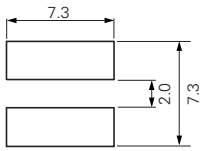

## CDRH6D26FB

NEW

● DIMENSIONS(mm)



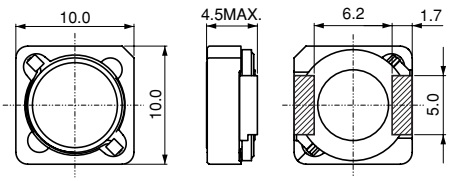

● LAND PATTERNS(mm)



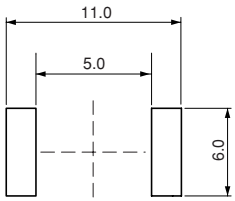

## CDRH10D43F

PROVISIONAL

● DIMENSIONS(mm)




● LAND PATTERNS(mm)



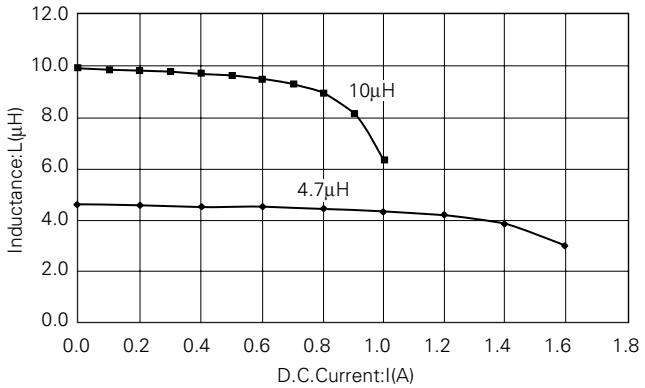
# Double Flat Winding Inductors

NEW PRODUCTS

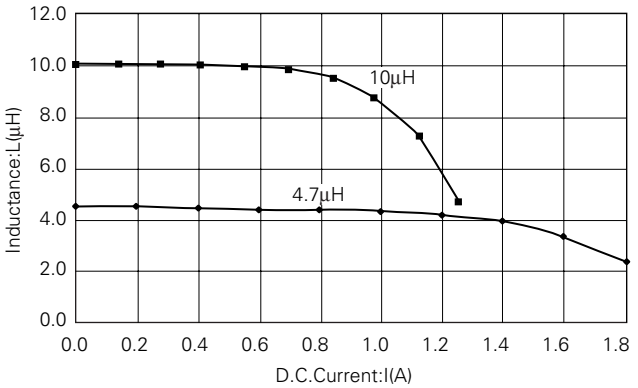
## ● Inductance Range

| | |
|---|---|
| CDRH4D16FB | : 4.7μH - 33μH |
| CDRH5D16F/LD | : 2.2μH - 47μH |
| CDPH4D19F | : 3.3μH - 47μH |
| CDRH6D26FB | : 2.2μH - 22μH |
| CDRH10D43F | : 4.7μH - 33μH |

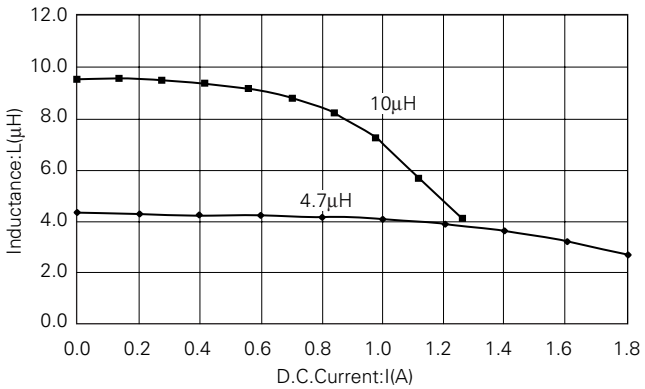
## ● CDRH4D16FB: Saturation Current



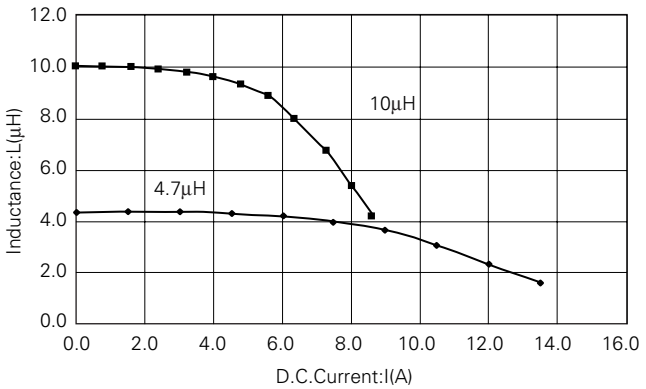

## ● CDRH5D16F/LD: Saturation Current




## ● CDPH4D19F: Saturation Current




## ● CDRH10D43F: Saturation Current




About CDRH4D16FB, CDRH10D43F

※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

# L.P.F Coils for Digital AMP

NEW PRODUCTS

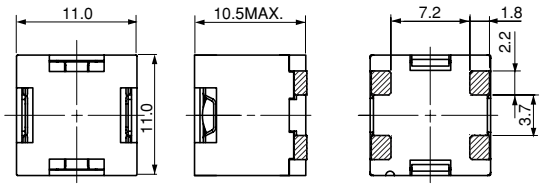


## ■ OUTLINE

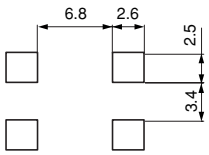
It is the inductor for LPF used in the digital amplifier featuring with higher efficiency and lower heat generation.
It is a product which corresponds to the demand of SMD type and smaller foot print (two in one type LPF) for 1 speaker.
Applications are car audios, 5.1ch home theater sets and large LCDs.

## CDEPI106

● DIMENSIONS(mm)




● LAND PATTERNS(mm)



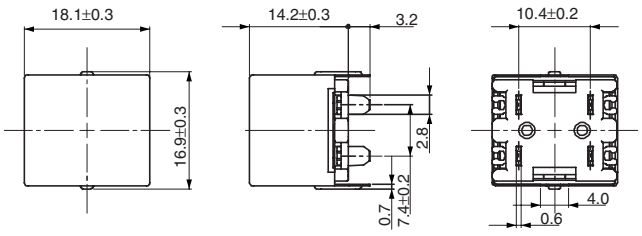

● SPECIFICATIONS

| Part No. | Stamp | Inductance 〈WITHIN〉 ※1 (1-2), (4-3) | D.C.R.(mΩ) Max. (Typ)※2 (1-2), (4-3) | Saturation Rated Current(A) ※3 | | Temperature Rise Rated Current(A) ※4 |
|---|---|---|---|---|---|---|
| | | | | (at 20°C) | (at 105°C) | |
| CDEPI106NP-100 | 100 | 10μH±25% | 28.8(23) | 4.9 | 4.5 | 4.0 |
| CDEPI106NP-150 | 150 | 15μH±25% | 28.8(23) | 3.5 | 3.0 | 4.0 |
| CDEPI106NP-220 | 220 | 22μH±30% | 28.8(23) | 2.2 | 1.9 | 4.0 |

※1: Mesurement frequency of inductance : at 100kHz
※2: ( ) is typical value.
※3: Saturation Rated Current : It indicates the D.C. current value when inductance value become more than 75% of the nominal one.
※4: The Temperature Rise Rated Current : The value of D.C. current when temperature rise is Δt=40˚C (Ta=20˚C).

## DEPI1615


● DIMENSIONS(mm)



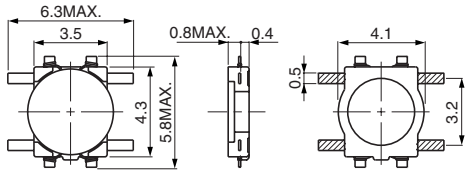
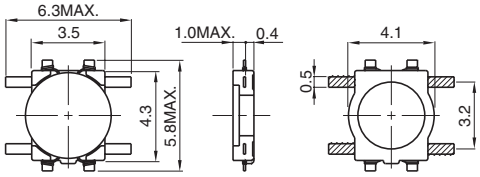
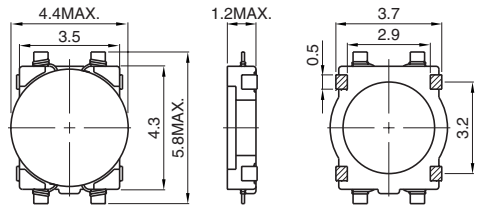
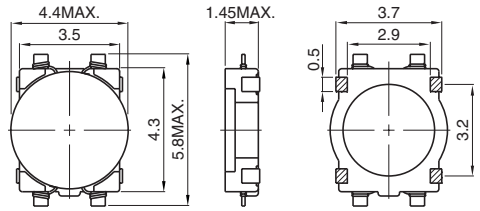
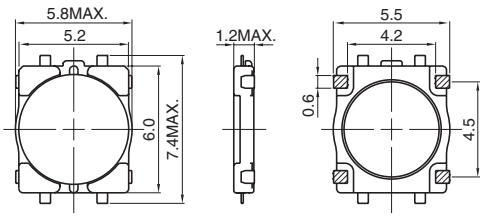
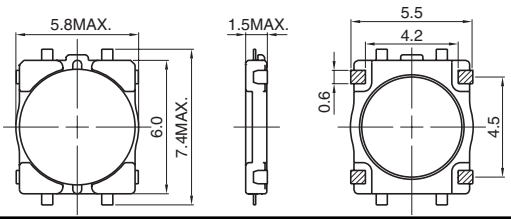
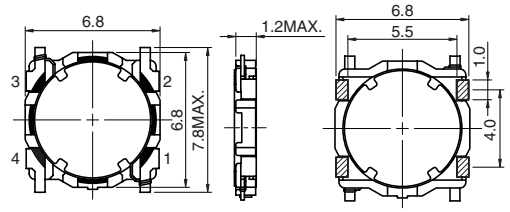
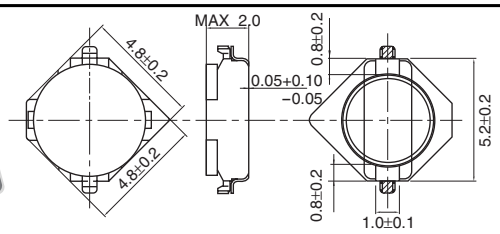

● SPECIFICATIONS

| Part No. | Stamp | Inductance 〈WITHIN〉 ※1 (1-2), (4-3) | D.C.R.(mΩ) ※2 (1-2), (4-3) | Saturation Rated Current(A) ※3 | | Temperature Rise Rated Current(A) ※4 |
|---|---|---|---|---|---|---|
| | | | | (at 20°C) | (at 105°C) | |
| DEPI1615-100 | 100 | 10μH±20% | 14.8 (12.3) | 9.6 | 7.6 | 8.5 |
| DEPI1615-150 | 150 | 15μH±20% | 20.6 (17.2) | 8.4 | 6.5 | 6.0 |
| DEPI1615-220 | 220 | 22μH±20% | 29.0 (24.2) | 6.8 | 5.3 | 4.3 |

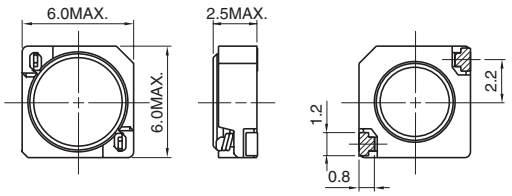
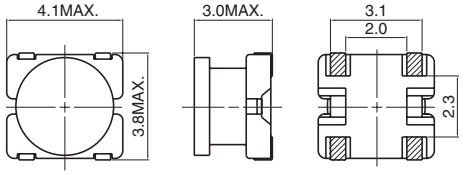
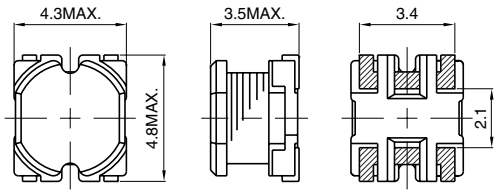
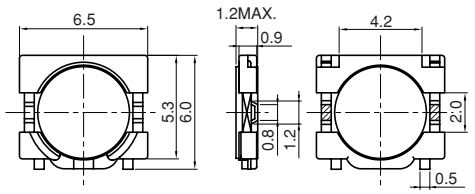
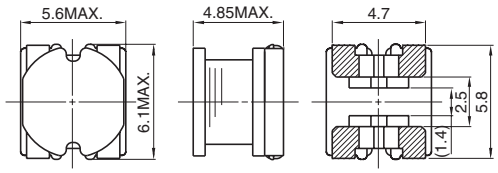
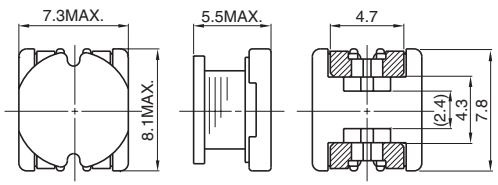
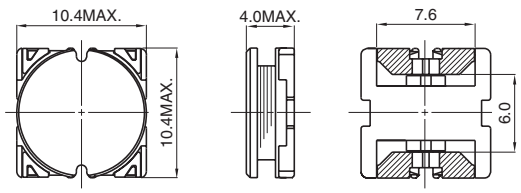
※1: Mesurement frequency of inductance : at 100kHz
※2: ( ) is typical value.
※3: Saturation Rated Current : It indicates the D.C. current value when inductance value become more than 75% of the nominal one.
※4: The Temperature Rise Rated Current : The value of D.C. current when temperature rise is Δt=40˚C (Ta=20˚C).

About DEPI1615
※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

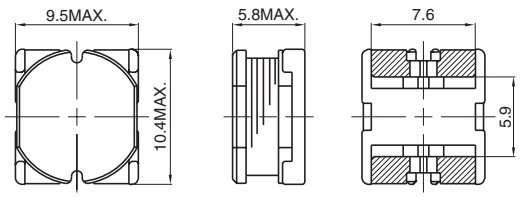
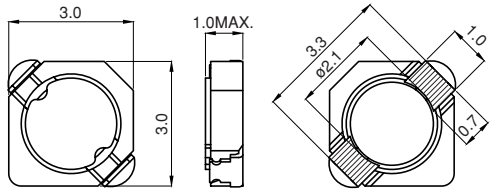
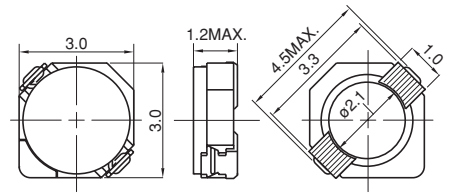
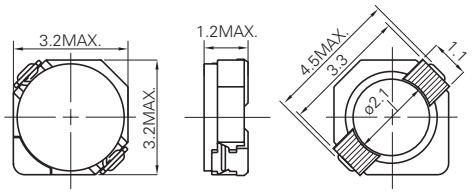
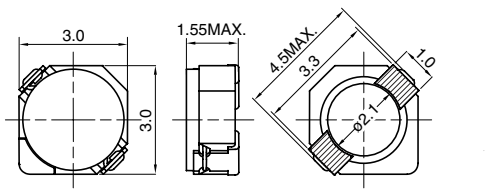
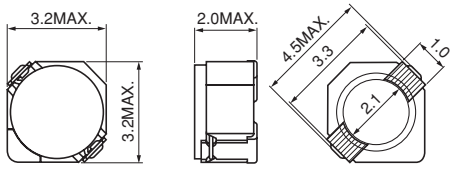
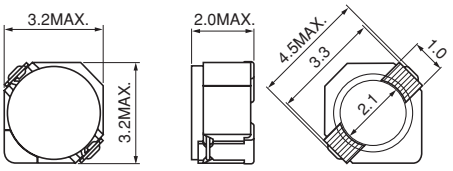
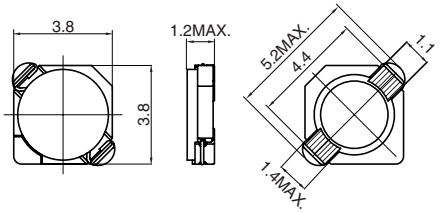
## POWER INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CMD4D06**  |   |  | Inductance : 2.2μH – 47μH<br>D.C.R. : 116mΩ – 2.84Ω<br>Rated Current : 180mA – 950mA |
| **CMD4D08**  |   |  | Inductance : 3.3μH – 100μH<br>D.C.R. : 160mΩ – 3.3Ω<br>Saturation Rated Current : 210mA – 1.2A<br>Temperature Rise Rated Current : 170mA – 850mA |
| **CMD4D11**  |   |  | Inductance : 2.2μH – 47μH<br>D.C.R. : 116mΩ – 2.84Ω<br>Rated Current : 180mA – 950mA |
| **CMD4D13**  |   |  | Inductance : 3.3μH – 150μH<br>D.C.R. : 160mΩ – 5.36Ω<br>Saturation Rated Current : 180mA – 1.2A<br>Temperature Rise Rated Current : 130mA – 850mA |
| **CMD5D11**  |   |  | Inductance : 3.3μH – 100μH<br>D.C.R. : 109mΩ – 2.8Ω<br>Saturation Rated Current : 200mA – 940mA<br>Temperature Rise Rated Current : 200mA – 1.16A |
| **CMD5D13**  |   |  | Inductance : 3.3μH – 47μH<br>D.C.R. : 81mΩ – 875mΩ<br>Saturation Rated Current : 550mA – 1.9A<br>Temperature Rise Rated Current : 350mA – 1.25A |
| **CMD6D11B**  |   |  | Inductance : 4.7μH – 150μH<br>D.C.R. : 100mΩ – 3.1Ω<br>Saturation Rated Current : 210mA – 1.3A<br>Temperature Rise Rated Current : 180mA – 1.4A |
| **CDC4D20** NEW  PROVISIONAL |   |  | Inductance : 100μH – 4.7mH<br>D.C.R. : 1.77Ω – 72.1Ω<br>Rated Current : 35mA – 230mA |

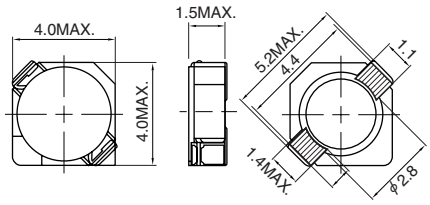
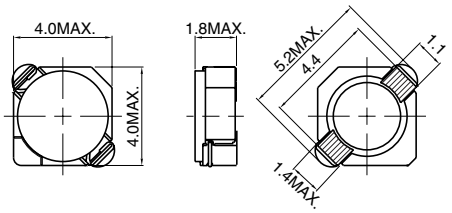
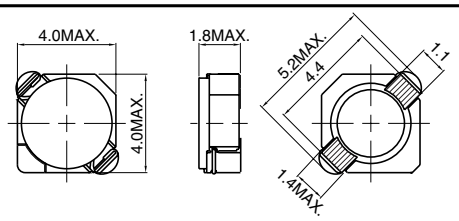
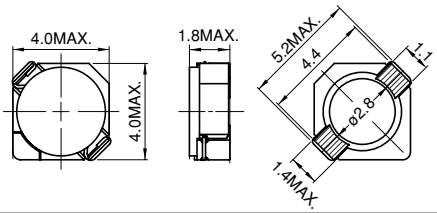
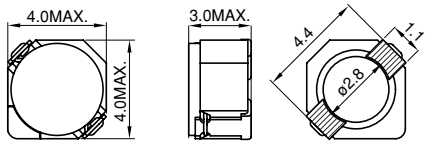
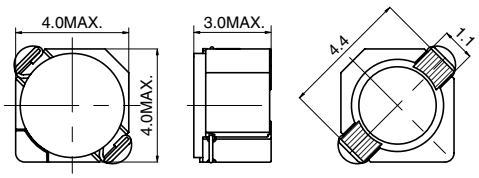
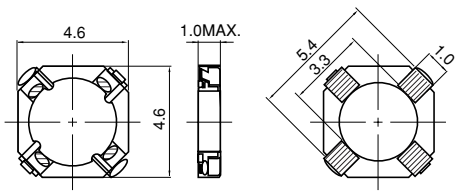
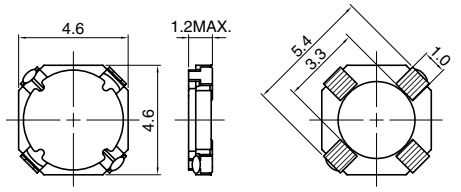
## POWER INDUCTORS

| TYPE | DIMENSIONS (mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CDC5D23**  |   |  | Inductance : 2.2μH – 270μH<br>D.C.R. : 39mΩ – 2.73Ω<br>Rated Current : 190mA – 2.16A |
| **CR32**  |   |  | Inductance : 10μH – 390μH<br>D.C.R. : 230mΩ – 7.8Ω<br>Rated Current : 115mA – 760mA |
| **CR43**  |   |  | Inductance : 1.0μH – 68μH<br>D.C.R. : 48.7mΩ – 1.12Ω<br>Rated Current : 370mA – 2.56A |
| **CR5D11**  |   |  | Inductance : 1.0μH – 33μH<br>D.C.R. : 40mΩ – 784mΩ<br>Saturation Rated Current : 400mA – 2.2A<br>Temperature Rise Current (Typ) : 450mA – 2.8A |
| **CR54**  |   |  | Inductance : 2.2μH – 220μH<br>D.C.R. : 23.4mΩ – 1.57Ω<br>Rated Current : 350mA – 3.84A |
| **CR75**  |   |  | Inductance : 1.2μH – 470μH<br>D.C.R. : 15.6mΩ – 1.96Ω<br>Rated Current : 340mA – 6.0A |
| **CR10D37**  |   |  | Inductance : 2.7μH – 680μH<br>D.C.R. : 34.5mΩ – 2.55Ω<br>Saturation Rated Current : 350mA – 5.7A<br>Temperature Rise Rated Current : 330mA – 2.65A |

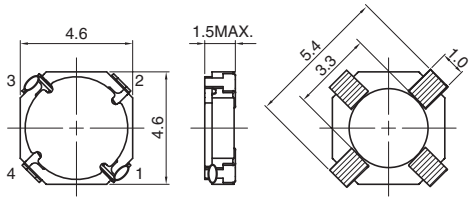
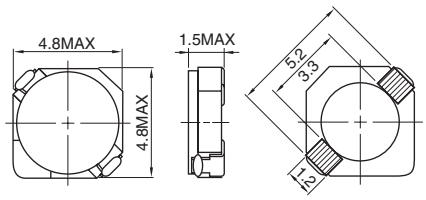
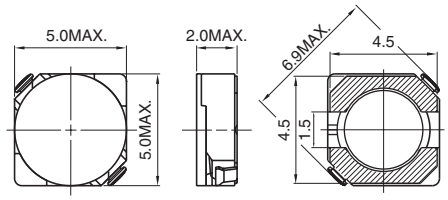
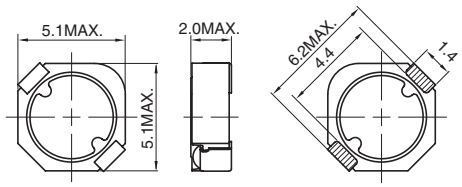
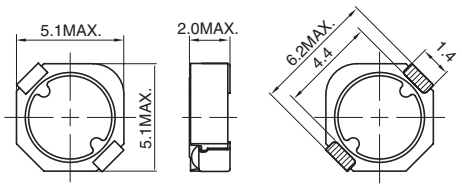
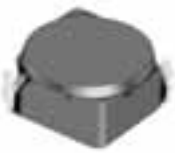
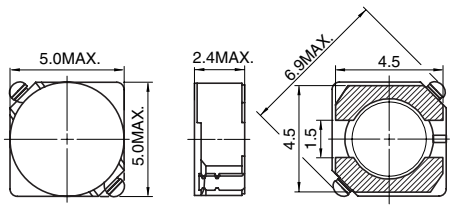
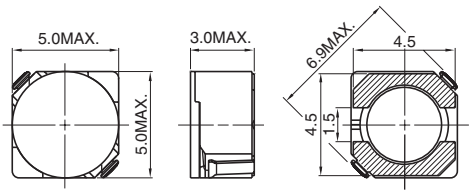
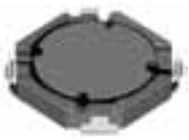
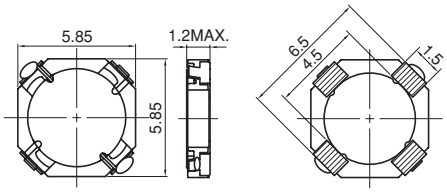
## POWER INDUCTORS

| TYPE | DIMENSIONS (mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CR105**  |   |  | Inductance : 1.8µH – 820µH<br>D.C.R. : 13.0mΩ – 2.55Ω<br>Rated Current : 240mA – 6.0A |
| **CDRH2D09**  |   |  | Inductance : 1.2µH – 10µH<br>D.C.R. : 97.5mΩ – 537.5mΩ<br>Saturation Rated Current : 280mA – 800mA<br>Temperature Rise Current (Typ) : 420mA – 1.24A |
| **CDRH2D11**  |   |  | Inductance : 1.5µH – 10µH<br>D.C.R. : 68mΩ – 400mΩ<br>Saturation Rated Current : 350mA – 900mA<br>Temperature Rise Current (Typ) : 650mA – 1.48A |
| **CDRH2D11/HP** NEW  |   |  | Inductance : 1.5µH – 10µH<br>D.C.R. : 80mΩ – 559mΩ<br>Saturation Rated Current : 520mA – 1.35A<br>Temperature Rise Current (Typ) : 520mA – 1.6A |
| **CDRH2D14**  |   |  | Inductance : 1.5µH – 12µH<br>D.C.R. : 63mΩ – 394mΩ<br>Saturation Rated Current : 620mA – 1.8A<br>Temperature Rise Current (Typ) : 640mA – 2.0A |
| **CDRH2D18/LD**  |   |  | Inductance : 2.2µH – 47µH<br>D.C.R. : 41mΩ – 660mΩ<br>Saturation Rated Current : 200mA – 850mA<br>Temperature Rise Current (Typ) : 480mA – 2.3A |
| **CDRH2D18/HP**  |   |  | Inductance : 1.7µH – 15µH<br>D.C.R. : 44mΩ – 345mΩ<br>Saturation Rated Current : 700mA – 1.85A<br>Temperature Rise Current (Typ) : 640mA – 2.2A |
| **CDRH3D11**  |   |  | Inductance : 2.7µH – 39µH<br>D.C.R. : 84.5mΩ – 1.02Ω<br>Saturation Rated Current : 140mA – 530mA<br>Temperature Rise Current (Typ) : 400mA – 1.82A |

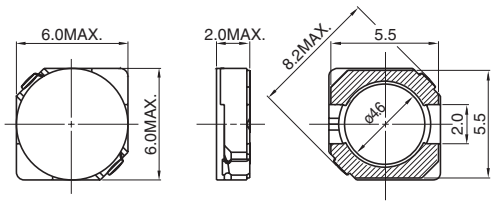
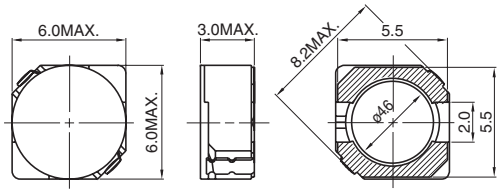
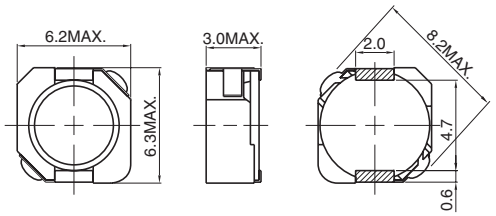
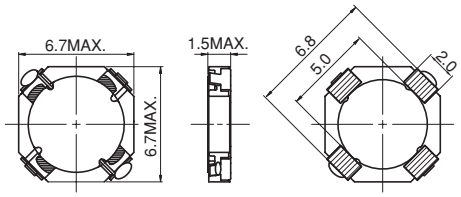
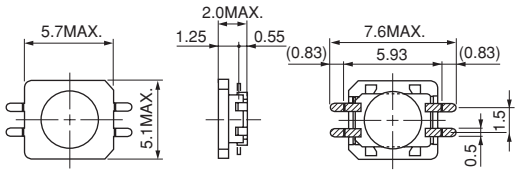
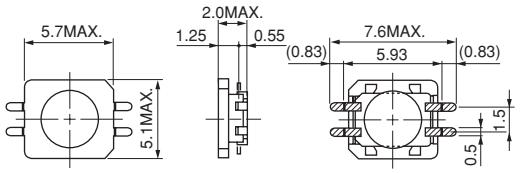
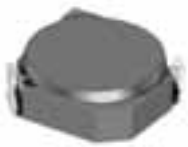
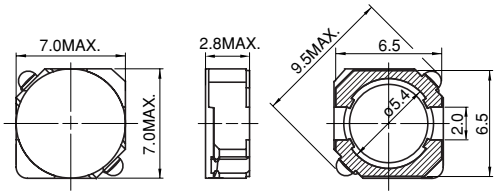
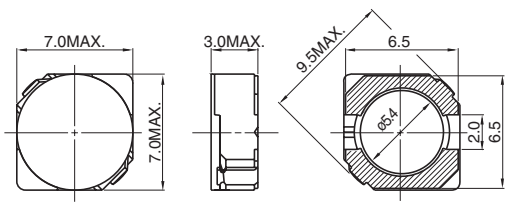
## POWER INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CDRH3D14/HP** NEW  |   |  | Inductance : 1.5μH – 22μH<br>D.C.R. : 76mΩ – 830mΩ<br>Saturation Rated Current : 650mA – 2.6A<br>Temperature Rise Current (Typ) : 480mA – 1.85A |
| **CDRH3D16**  |   |  | Inductance : 1.5μH – 33μH<br>D.C.R. : 52mΩ – 675mΩ<br>Rated Current : 320mA – 1.55A |
| **CDRH3D16/LD**  |   |  | Inductance : 3.3μH – 47μH<br>D.C.R. : 66mΩ – 775mΩ<br>Saturation Rated Current : 210mA – 800mA<br>Temperature Rise Current (Typ) : 450mA – 2.0A |
| **CDRH3D16/HP**  |   |  | Inductance : 1.7μH – 33μH<br>D.C.R. : 51mΩ – 870mΩ<br>Saturation Rated Current : 460mA – 2.0A<br>Temperature Rise Current (Typ) : 410mA – 2.4A |
| **CDRH3D28**  |   |  | Inductance : 3.3μH – 47μH<br>D.C.R. : 72.1mΩ – 599mΩ<br>Saturation Rated Current : 480mA – 2.0A<br>Temperature Rise Current (Typ) : 560mA – 1.85A |
| **CDRH3D28/LD**  |   |  | Inductance : 10μH – 220μH<br>D.C.R. : 95mΩ – 1.27Ω<br>Saturation Rated Current : 116mA – 500mA<br>Temperature Rise Current (Typ) : 360mA – 1.52A |
| **CLS4D09**  |   |  | Inductance : 4.7μH – 22μH<br>D.C.R. : 185mΩ – 910mΩ<br>Saturation Rated Current : 350mA – 800mA<br>Temperature Rise Rated Current : 300mA – 750mA |
| **CLS4D11**  |   |  | Inductance : 3.3μH – 33μH<br>D.C.R. : 120mΩ – 1.1Ω<br>Rated Current : 300mA – 1.0A |

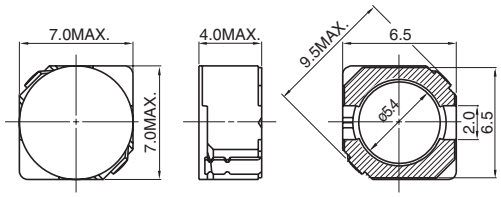
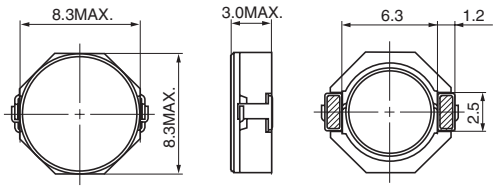
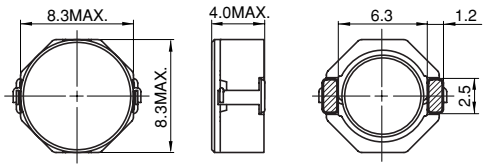
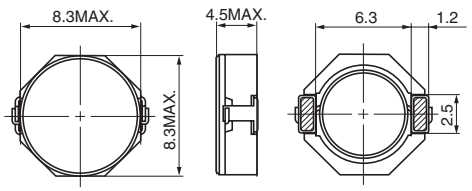
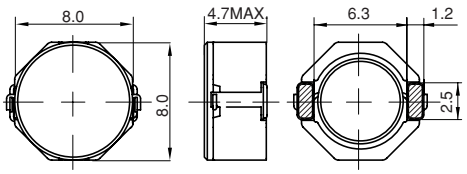
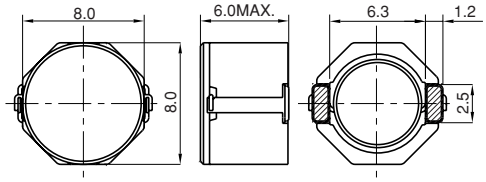
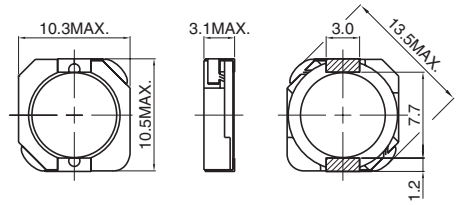
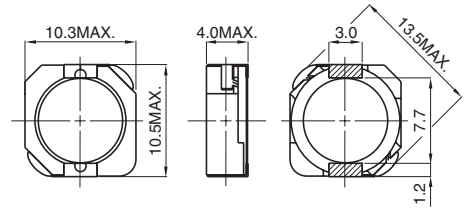
## POWER INDUCTORS

| TYPE | DIMENSIONS (mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CLS4D14**  |   |  | Inductance : 4.7µH – 47µH<br>D.C.R. : 110mΩ – 830mΩ<br>Saturation Rated Current : 300mA – 900mA<br>Temperature Rise Rated Current : 330mA – 1.0A |
| **CDRH4D14/HP** NEW  |   |  | Inductance : 4.7µH – 10µH<br>D.C.R. : 140mΩ – 280mΩ<br>Saturation Rated Current : 950mA – 1.4A<br>Temperature Rise Rared Current : 750mA – 1.1A |
| **CDRH4D18**  |   |  | Inductance : 1.0µH – 180µH<br>D.C.R. : 45mΩ – 4.0Ω<br>Rated Current : 140mA – 1.72A |
| **CDRH4D18C**  |   |  | Inductance : 1.1µH – 100µH<br>D.C.R. : 29mΩ – 1.51Ω<br>Rated Current : 250mA – 2.4A |
| **CDRH4D18C/LD**  |   |  | Inductance : 1.1µH – 100µH<br>D.C.R. : 24mΩ – 962mΩ<br>Saturation Rated Current : 200mA – 2.1A<br>Temperature Rise Rared Current : 350mA – 3.5A |
| **CDRH4D22**  |   |  | Inductance : 1.5µH – 150µH<br>D.C.R. : 18.3mΩ – 1.35Ω<br>Saturation Rated Current : 210mA – 2.0A<br>Temperature Rise Current (Typ) : 470mA – 4.2A |
| **CDRH4D28**  |   |  | Inductance : 1.2µH – 180µH<br>D.C.R. : 23.6mΩ – 1.54Ω<br>Rated Current : 220mA – 2.56A |
| **CLS5D11**  |   |  | Inductance : 4.7µH – 47µH<br>D.C.R. : 120mΩ – 930mΩ<br>Saturation Rated Current : 380mA – 1.1A<br>Temperature Rise Rated Current : 350mA – 1.1A |

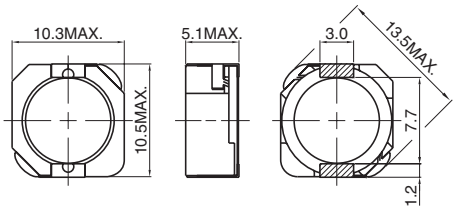
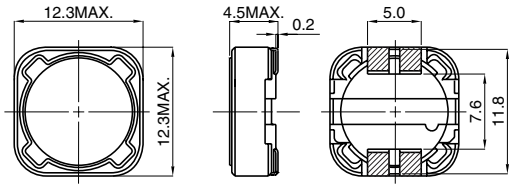
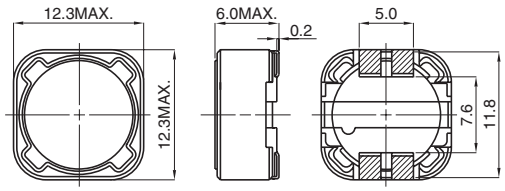
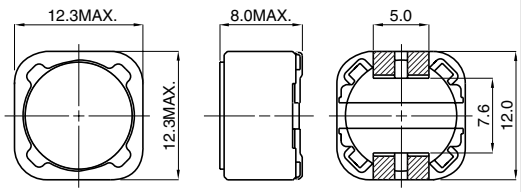
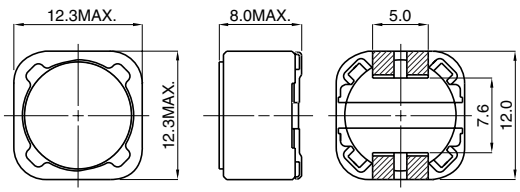
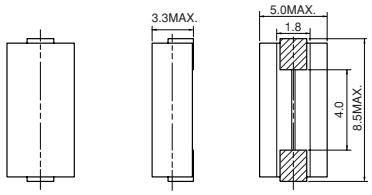
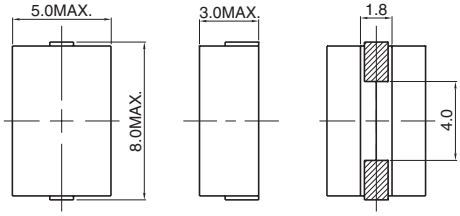
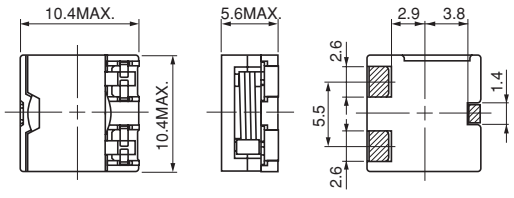
## POWER INDUCTORS

| TYPE | DIMENSIONS (mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CDRH5D18**  |   |  | Inductance : 4.1μH – 100μH<br>D.C.R. : 57mΩ – 1.2Ω<br>Rated Current : 360mA – 1.95A |
| **CDRH5D28**  |   |  | Inductance : 2.5μH – 100μH<br>D.C.R. : 18mΩ – 520mΩ<br>Rated Current : 420mA – 2.6A |
| **CDRH5D28R**  |   |  | Inductance : 2.5μH – 100μH<br>D.C.R. : 17.6mΩ – 520mΩ<br>Rated Current : 400mA – 2.6A |
| **CDRH6D12**  |   |  | Inductance : 1.0μH – 68μH<br>D.C.R. : 37.5mΩ – 920mΩ<br>Saturation Rated Current : 450mA – 3.5A<br>Temperature Rise Current (Typ) : 400mA – 2.8A |
| **CLQ61**  |   |  | Inductance : 2.2μH – 330μH<br>D.C.R. : 81mΩ – 7.15Ω<br>Rated Current : 70mA – 1.36A |
| **CLQ61B**  |   |  | Inductance : 2.2μH – 330μH<br>D.C.R. : 81mΩ – 7.15Ω<br>Rated Current : 70mA – 1.36A |
| **CDRH6D26**  |   |  | Inductance : 2.2μH – 100μH<br>D.C.R. : 22mΩ – 560mΩ<br>Rated Current : 500mA – 3.2A |
| **CDRH6D28**  |   |  | Inductance : 3.0μH – 100μH<br>D.C.R. : 24mΩ – 535mΩ<br>Rated Current : 540mA – 3.0A |

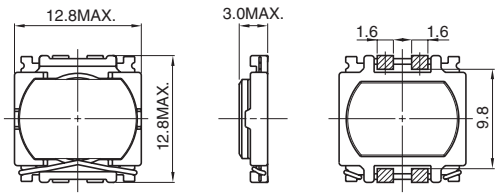
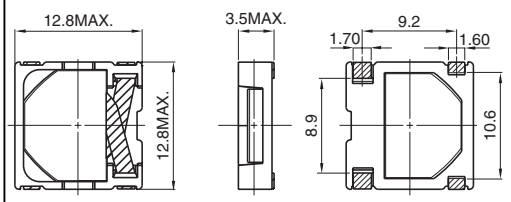
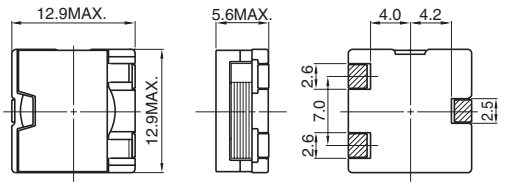
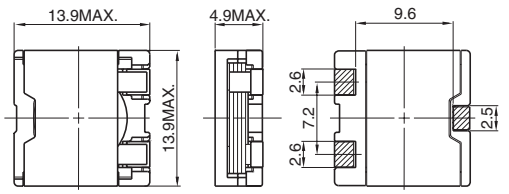
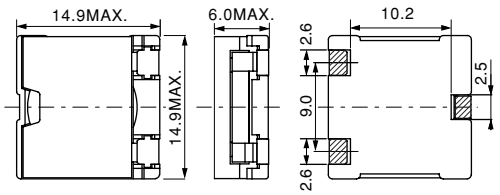
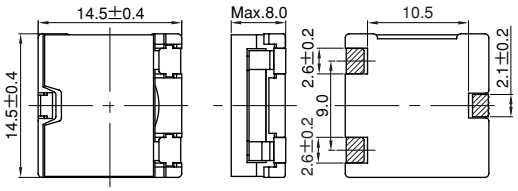
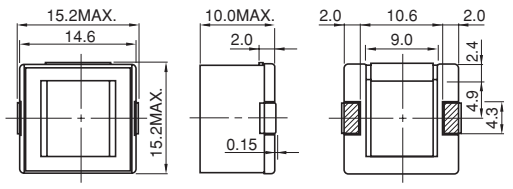
## POWER INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CDRH6D38**  |   |  | Inductance : 3.3μH – 100μH<br>D.C.R. : 20mΩ – 358mΩ<br>Rated Current : 650mA – 3.5A |
| **CDRH8D28**  |   |  | Inductance : 2.5μH – 100μH<br>D.C.R. : 15.6mΩ – 430mΩ<br>Saturation Rated Current : 750mA – 4.5A<br>Temperature Rise Current (Typ) : 800mA – 6.4A |
| **CDRH8D38**  |   |  | Inductance : 1.8μH – 100μH<br>D.C.R. : 15.6mΩ – 410mΩ<br>Saturation Rated Current : 1.05A – 7.0A<br>Temperature Rise Current (Typ) : 880mA – 6.8A |
| **CDRH8D43**  |   |  | Inductance : 2.0μH – 100μH<br>D.C.R. : 14mΩ – 360mΩ<br>Saturation Rated Current : 1.3A – 7.0A<br>Temperature Rise Rated Current : 800mA – 5.5A |
| **CDRH8D43/HP**  |   |  | Inductance : 1.2μH – 68μH<br>D.C.R. : 16.5mΩ – 363mΩ<br>Saturation Rated Current : 1.6A – 12.6A<br>Temperature Rise Current (Typ) : 800mA – 5.6A |
| **CDRH8D58/LD**  |   |  | Inductance : 2.8μH – 100μH<br>D.C.R. : 15mΩ – 175mΩ<br>Saturation Rated Current : 800mA – 4.7A<br>Temperature Rise Current (Typ) : 1.4A – 6.9A |
| **CDRH103R**  |   |  | Inductance : 0.8μH – 150μH<br>D.C.R. : 5.7mΩ – 871mΩ<br>Saturation Rated Current : 840mA – 11.2A<br>Temperature Rise Rated Current : 510mA – 8.3A |
| **CDRH104R**  |   |  | Inductance : 1.5μH – 330μH<br>D.C.R. : 8.1mΩ – 1.09Ω<br>Saturation Rated Current : 700mA – 10.0A<br>Temperature Rise Rated Current : 520mA – 6.5A |

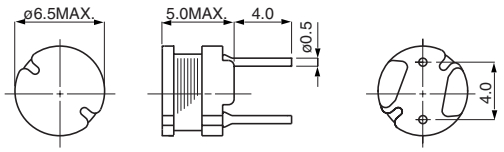
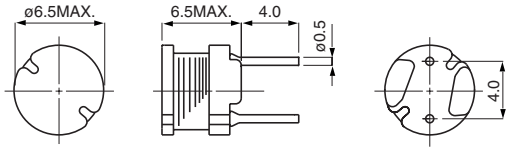
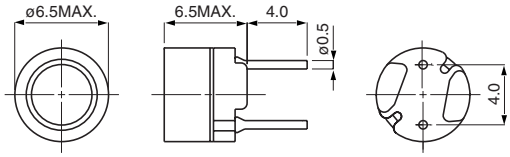
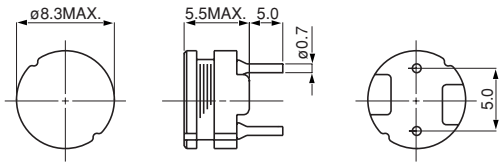
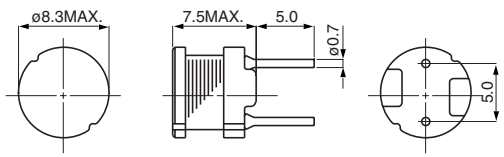
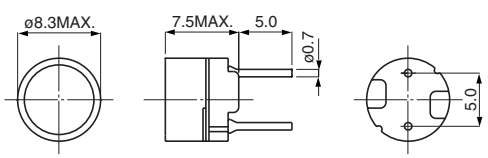
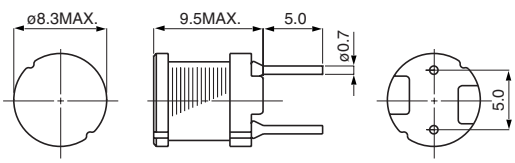
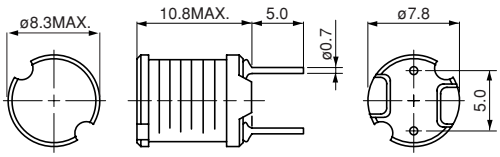
## POWER INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CDRH105R**  |   |  | Inductance : 0.8μH – 1.0mH<br>D.C.R. : 4.3mΩ – 2.0Ω<br>Saturation Rated Current : 420mA – 9.5A<br>Temperature Rise Rated Current : 480mA – 13.5A |
| **CDRH124**  |   |  | Inductance : 3.9μH – 330μH<br>D.C.R. : 15mΩ – 990mΩ<br>Rated Current : 500mA – 6.5A |
| **CDRH125**  |   |  | Inductance : 1.3μH – 1.0mH<br>D.C.R. : 12mΩ – 1.53Ω<br>Rated Current : 400mA – 8.0A |
| **CDRH127**  |   |  | Inductance : 1.2μH – 1.0mH<br>D.C.R. : 7.0mΩ – 1.82Ω<br>Rated Current : 550mA – 9.8A |
| **CDRH127/LD**  |   |  | Inductance : 1.0μH – 1.0mH<br>D.C.R. : 6.5mΩ – 1.50Ω<br>Rated Current : 700mA – 14.0A |
| **CDBM73MN**  |   |  | Inductance : 100μH<br>D.C.R. : Max 0.9mΩ<br>Saturation Rated Current : 24.0A<br>Temperature Rise Current (Typ) : 22.5A |
| **CDBM7D28**  |   |  | Inductance : 80nH – 120nH<br>D.C.R. : Max. 1.7mΩ<br>Rated Current : 15.0A |
| **CDEP105**  |   |  | Inductance : 0.15μH – 8.8μH<br>D.C.R. : 1.7mΩ – 23.8mΩ<br>Saturation Rated Current : 4.8A – 55.0A<br>Temperature Rise Current (Typ) : 4.9A – 19.0A |

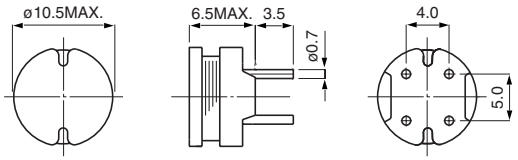
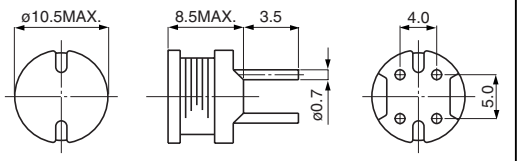
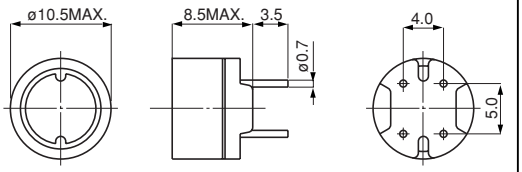
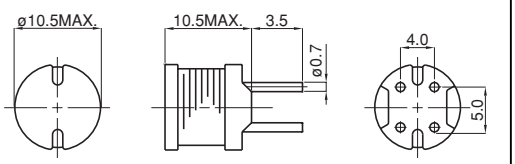
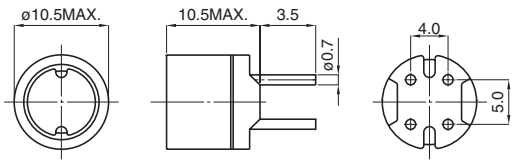
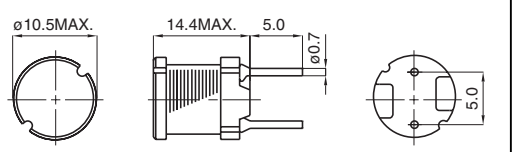
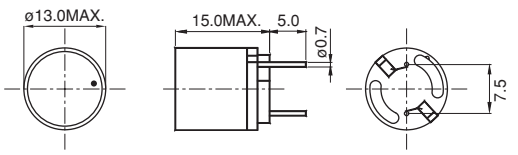
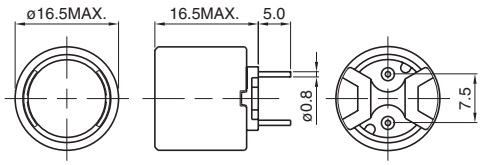
## POWER INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CEI122(H)**  |   |  | Inductance : 0.7μH – 22μH<br>D.C.R. : 10.7mΩ – 85.0mΩ<br>Saturation Rated Current : 2.3A – 17.0A<br>Temperature Rise Current (Typ) : 2.3A – 6.6A |
| **CEP123**  |   |  | Inductance : 1.2μH – 8.0μH<br>D.C.R. : 5.83mΩ – 23.0mΩ<br>Rated Current : 4.0A – 10.0A |
| **CEP125(H,U)**  |   |  | Inductance : 0.35μH – 10.0μH<br>D.C.R. : 1.5mΩ – 13.5mΩ<br>Saturation Rated Current : 5.0A – 35.0A<br>Temperature Rise Current (Typ) : 7.6A – 19.5A |
| **CDEP134(H)**  |   |  | Inductance : 0.3μH – 8.0μH<br>D.C.R. : 1.9mΩ – 18.4mΩ<br>Saturation Rated Current : 7.2A – 35.0A<br>Temperature Rise Current (Typ) : 6.5A – 18.5A |
| **CDEP145**  |   |  | Inductance : 0.56μH – 6.1μH<br>D.C.R. : 1.7mΩ – 10.8mΩ<br>Saturation Rated Current : 10.4A – 36.0A<br>Temperature Rise Current (Typ) : 9.5A – 23.0A |
| **CDEP147** NEW  |   |  | Inductance : 0.7μH – 9.5μH<br>D.C.R. : 1.86mΩ – 11.23mΩ<br>Saturation Rated Current : 11.2A – 36.0A<br>Temperature Rise Current (Typ) : 8.5A – 21.0A |
| **CDEP149(H)**  |   |  | Inductance : 0.45μH – 3.0μH<br>D.C.R. : 1.1mΩ – 2.3mΩ<br>Saturation Rated Current : 12.4A – 32.0A<br>Temperature Rise Current (Typ) : 28.0A – 35.0A |

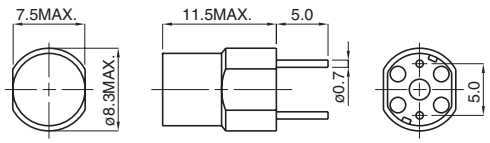
## POWER INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **RCH-654**  |   |  | Inductance : 1.0µH – 1.0mH<br>D.C.R. : 29mΩ – 7.06Ω<br>Rated Current : 130mA – 3.0A |
| **RCH-664**  |   |  | Inductance : 1.0µH – 1.0mH<br>D.C.R. : 18.3mΩ – 4.45Ω<br>Rated Current : 190mA – 4.0A |
| **RCR-664D**  |   |  | Inductance : 2.7µH – 1.0mH<br>D.C.R. : 42mΩ – 5.56Ω<br>Rated Current : 140mA – 2.42A |
| **RCH-855**  |   |  | Inductance : 2.5µH – 10mH<br>D.C.R. : 23mΩ – 55.7Ω<br>Saturation Rated Current : 81mA – 4.5A<br>Temperature Rise Rated Current : 37mA – 3.1A |
| **RCH-875**  |   |  | Inductance : 2.2µH – 10mH<br>D.C.R. : 13.7mΩ – 33.0Ω<br>Saturation Rated Current : 84mA – 5.8A<br>Temperature Rise Rated Current : 54mA – 3.0A |
| **RCR-875D**  |   |  | Inductance : 1.2µH – 10mH<br>D.C.R. : 18mΩ – 35.0Ω<br>Rated Current : 74mA – 4.14A |
| **RCH-895**  |   |  | Inductance : 2.5µH – 47mH<br>D.C.R. : 13.7mΩ – 96.4Ω<br>Saturation Rated Current : 38mA – 5.0A<br>Temperature Rise Rated Current : 31mA – 3.2A |
| **RCH8011**  |   |  | Inductance : 10µH – 1.0mH<br>D.C.R. : 35mΩ – 1.92Ω<br>Saturation Rated Current : 490mA – 4.4A<br>Temperature Rise Current (Typ) : 470mA – 4.1A |

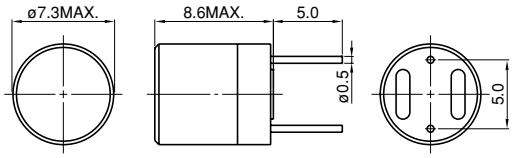
## POWER INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **RCH-106**  |   |  | Inductance : 1.0µH – 1.0mH<br>D.C.R. : 5.0mΩ – 3.2Ω<br>Rated Current : 360mA – 9.3A |
| **RCH-108**  |   |  | Inductance : 2,2µH – 1.0mH<br>D.C.R. : 8.5mΩ – 2.1Ω<br>Rated Current : 450mA – 7.9A |
| **RCR-108D**  |   |  | Inductance : 1.0µH – 1.0mH<br>D.C.R. : 6.5mΩ – 2.3Ω<br>Rated Current : 280mA – 9.15A |
| **RCH-110**  |   |  | Inductance : 10µH – 1.0mH<br>D.C.R. : 22mΩ – 1.7Ω<br>Rated Current : 530mA – 5.3A |
| **RCR-110D**  |   |  | Inductance : 10µH – 1.0mH<br>D.C.R. : 23mΩ – 1.5Ω<br>Rated Current : 350mA – 3.51A |
| **RCH-114**  |   |  | Inductance : 6.3µH – 39mH<br>D.C.R. : 26mΩ – 58Ω<br>Rated Current : 90mA – 4.3A |
| **RP1315**  |   |  | Inductance : 10µH – 33µH<br>D.C.R. : 19mΩ – 70mΩ<br>Saturation Rated Current : 4.5A – 8.1A<br>Temperature Rise Rated Current : 2.3A – 4.5A |
| **RCR1616**  |   |  | Inductance : 4.7µH – 1.0mH<br>D.C.R. : 6.7mΩ – 665mΩ<br>Saturation Rated Current : 850mA – 12.6A<br>Temperature Rise Rated Current : 930mA – 9.2A |

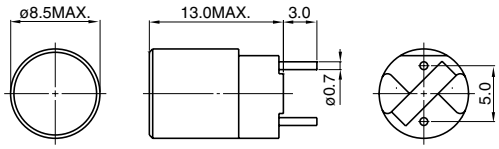
## FIXED INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **RC-875**  |   |  | Inductance : Max. 47mH<br>Operating Freq. : Max. 1MHz |

Molded case type
Excellent maximum allowable DC current characteristics

| | | | |
|---|---|---|---|
| **RX-7P**  |   |  | Inductance : Max. 6.8mH<br>Operating Freq. : Max. 1MHz |

Magnetically shielded type

| | | | |
|---|---|---|---|
| **RX-8P**  |   |  | Inductance : Max. 33mH<br>Operating Freq. : Max. 1MHz |

Magnetically shielded type

# High Reliability Inverter Transformers

NEW PRODUCTS



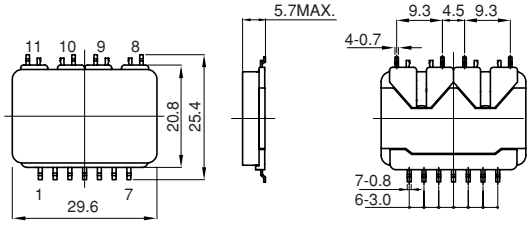
## ■ OUTLINE

The leakage transformer has a special core that allows for co-axial winding.
Suitable for large LCD panel, and complies to customer needs of high open voltage and high lamp wattage.
Inverter transformer corresponding to multiple CCFL lamps driving for large LCD TV application
It is possible to drive 2 CCFLs in 1 transformer. No ballast capacitor is required

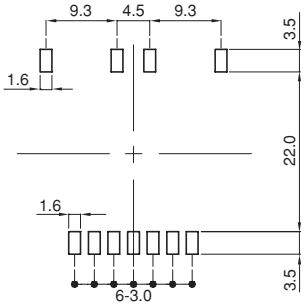
## CPUDL294

PROVISIONAL

● DIMENSIONS(mm)



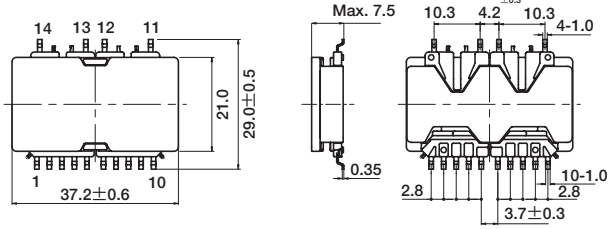

● LAND PATTERNS(mm)



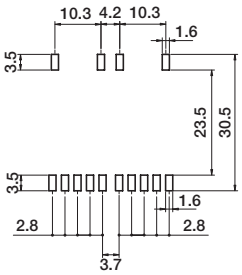

## CEIDL318

PROVISIONAL

● DIMENSIONS(mm)



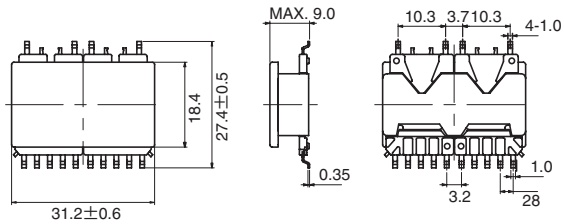

● LAND PATTERNS(mm)



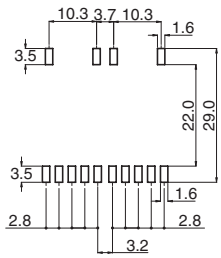

## CEIDL377

PROVISIONAL

● Dimensions(mm)



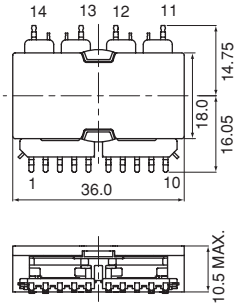

● Recommended land patterns(mm)

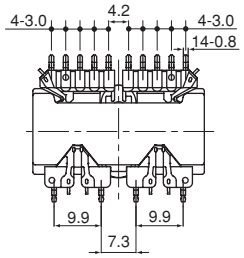



## CEIDL369

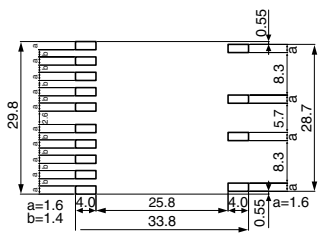
PROVISIONAL

● DIMENSIONS(mm)




● LAND PATTERNS(mm)



# High Reliability Inverter Transformers

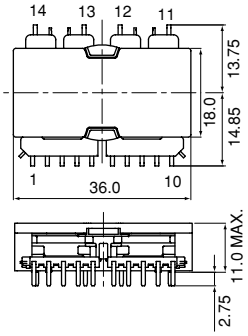
NEW PRODUCTS

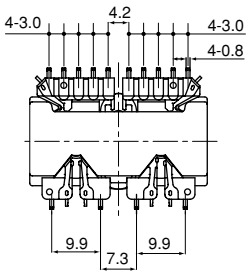


## EIDL369

PROVISIONAL

● DIMENSIONS(mm)



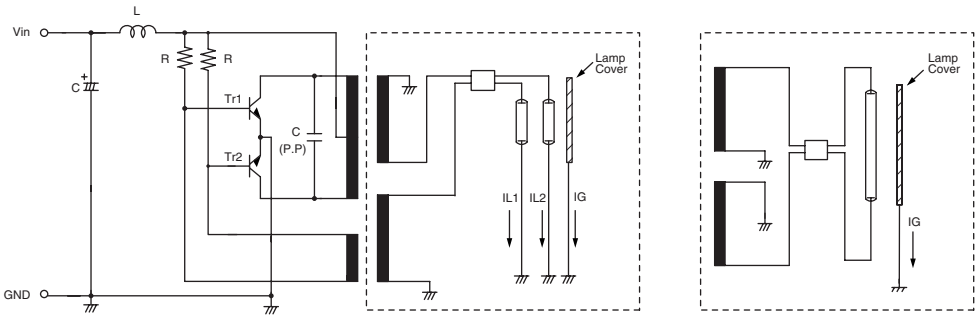

## ■ CHARACTERISTICS

Unique shielding reduces noise emissions.
Leakage transformer types are magnetically shielded.
No ballast capacitor is required due to leakage structure of the transformer.
High temperature reflow soldering is permitted. (Pb free)

### ◆APPLICATION

1. Large LCD TV
2. LCD monitor

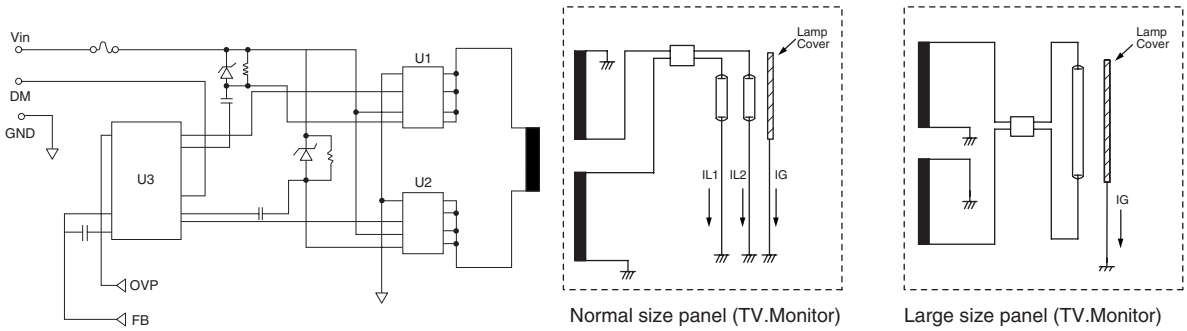
### ● Schematic




Normal size panel (TV.Monitor)

Large size panel (TV.Monitor)

### ● Schematic




Normal size panel (TV.Monitor)

Large size panel (TV.Monitor)

### ● SPECIFICATIONS

| Product Type | Frequency Range | Max. Open Voltage | Max. Lamp Wattage |
|---|---|---|---|
| CPUDL294 | 35kHz～70kHz | 1500Vrms | 3W×2 |
| CEIDL318 | 35kHz～65kHz | 1500Vrms (1800Vrms, 3sec) | 7.5W×2 |
| CEIDL377 | 35kHz～65kHz | 1500Vrms (1800Vrms, 3sec) | 7.5W×2 |
| CEIDL369 | 40kHz～65kHz | 1600Vrms (2000Vrms, 3sec) | 10W×2 |
| EIDL369 | 40kHz～65kHz | 1600Vrms (2000Vrms, 3sec) | 10W×2 |

About CPUDL294, CEIDL369, EIDL369
※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

# High Reliability Inverter Transformers

NEW PRODUCTS

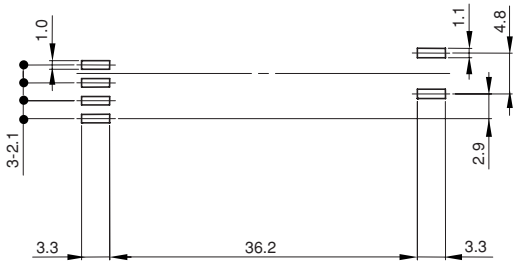


## ■ OUTLINE

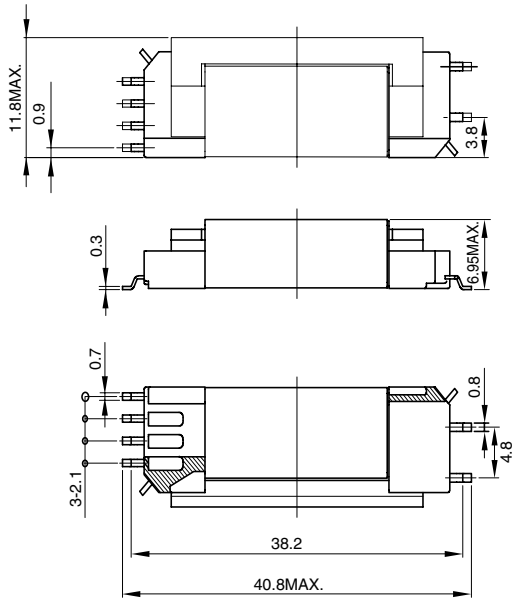
Slim type Inverter transformer corresponding to multiple CCFL lamps driving for large LCD TV application
Designed secondary winding for out put voltage check
High efficiency suitable for IC controlled type circuit

## CIUH11D66

● LAND PATTERNS (mm)




● DIMENSIONS (mm)




## ● SPECIFICATIONS

| | |
|---|---|
| Frequency Range | 50kHz~300kHz |
| Max. Open Voltage | 1600Vrms |
| Max. Lamp Wattage | 8.0W |

# INVERTER UNIT

NEW PRODUCTS



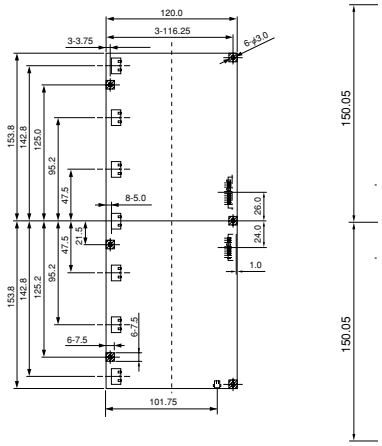
## ■ OUTLINE

1. Inverter unit for powering CCFL in 27" TV application
2.Line communication type circuitry
3.Polyphase circuitry

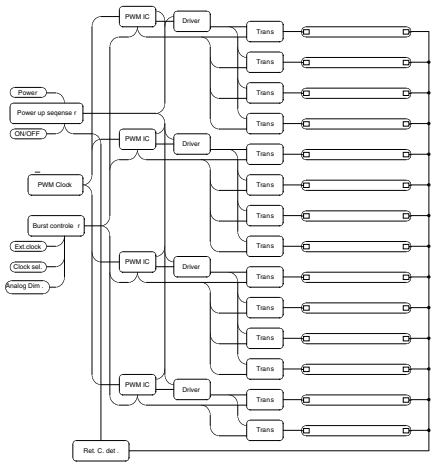
## IV120307

NEW

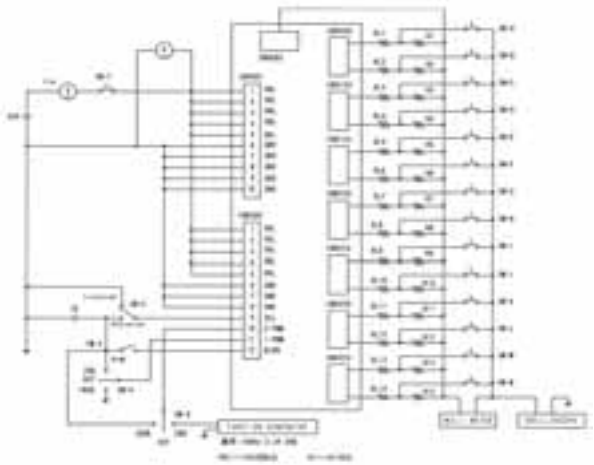
**DIMENSIONS (mm)**




COMPONEMT SIDE




**MEASUREMENT CIRCUIT DIAGRAM**



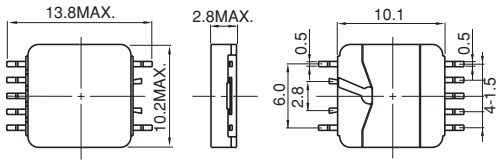
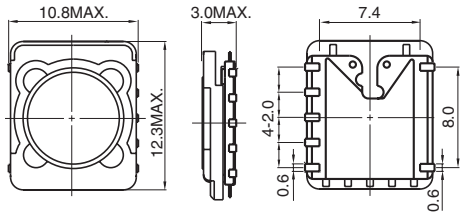
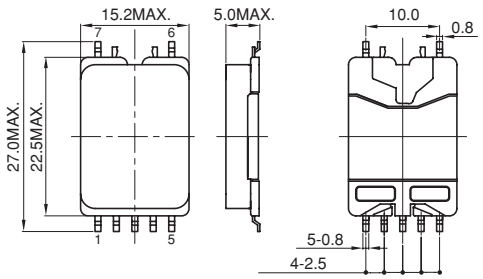
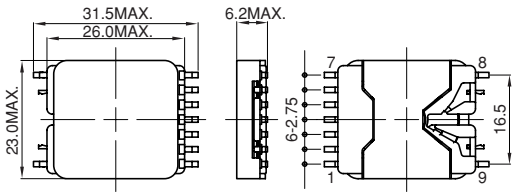
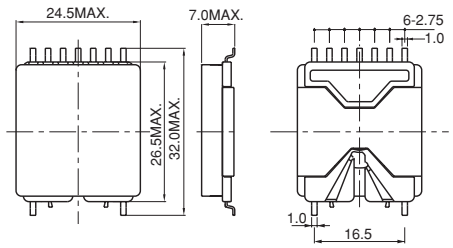
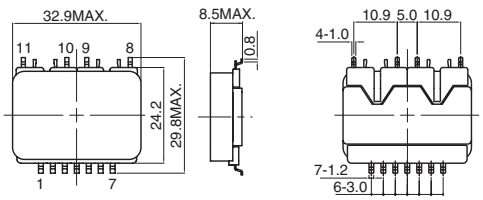
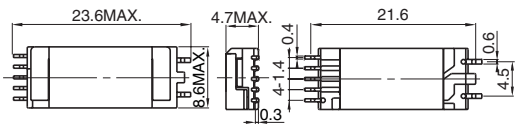
## ● ELECTRICAL SPECIFICATIONS

| Parameter | Symbol | Condition | Specifications | | | Unit |
|---|---|---|---|---|---|---|
| | | | min. | typ. | max. | |
| Input Voltage | Vin | Vin=24.0V±0.1V | 21.6 | 24.0 | 26.4 | V |
| Input Current | Iin | Vin=24.0V±0.1V | — | — | 5.91 | A |
| Frequency | Fosc | Vin=24.0V±0.1V | 54.0 | 56.0 | 58.0 | kHz |
| Lamp Current (Current/a Lamp) | IL | Vin=24.0V±0.1V Duty Ratio=100% | 4.4 | 4.7 | 5.0 | mArms |

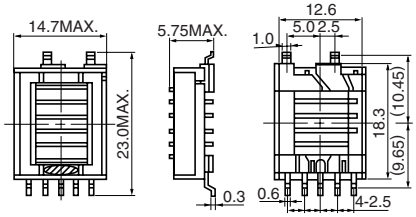
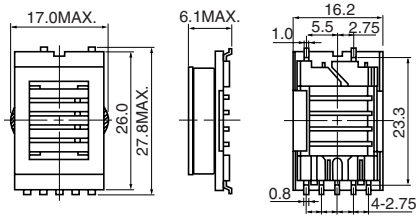
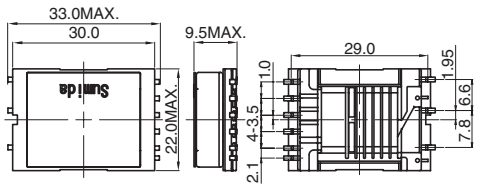
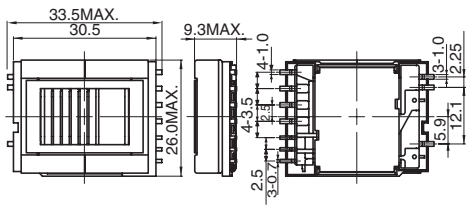
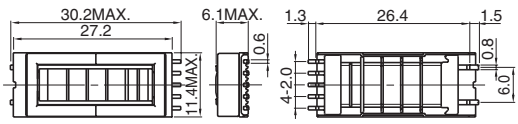
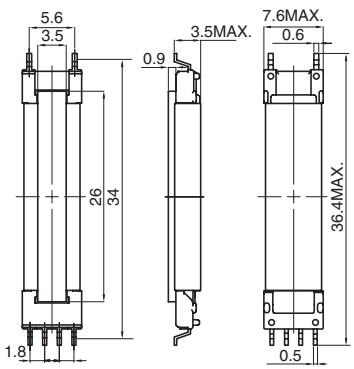
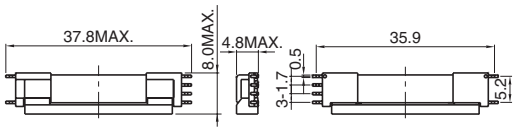
## ■ FEATURES

1.Lead-free available
2.For light adjustment, both PWM and voltage methods are used.
3.Effective protection functionality:Excessive-voltage protection and lamp-open detection circuitry.

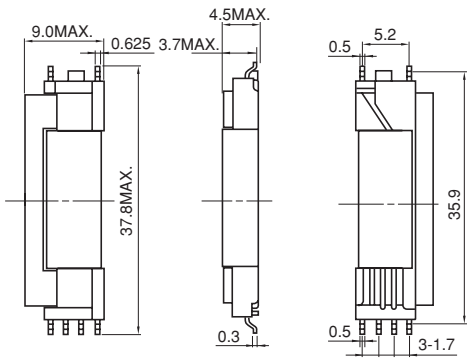
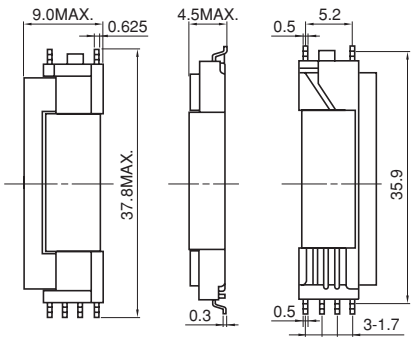
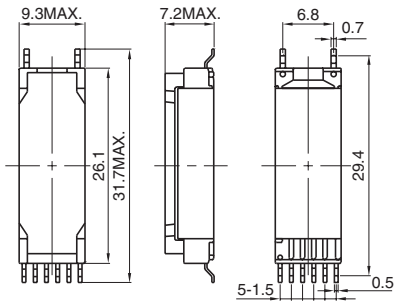
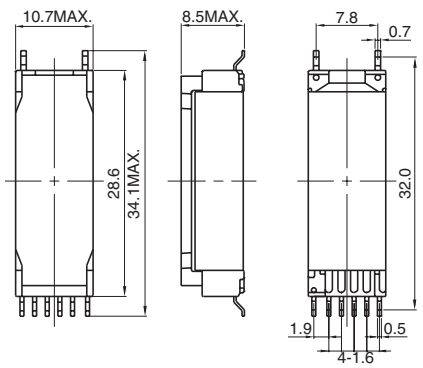
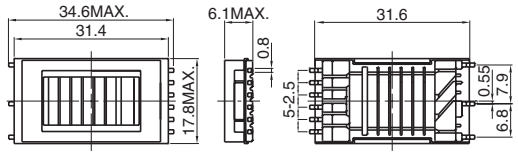
## INVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CPU9D25**  |   |  | Operating Freq. : Max. 140kHz<br>Max. Open Voltage : 750Vrms<br>Max. Lamp Wattage : 1.5W |
| **CLQ122**  |   |  | Operating Freq. : Max. 140kHz<br>Max. Open Voltage : 750Vrms<br>Max. Lamp Wattage : 1.2W |
| **CPU144C**  PROVISIONAL |   |  | Operating Freq. : Max. 100kHz<br>Max. Open Voltage : 1,500Vrms<br>Max. Lamp Wattage : 4W |
| **CPU215**  |   |  | Operating Freq. : Max. 80kHz<br>Max. Open Voltage : 1,800Vrms<br>Max. Lamp Wattage : 6W |
| **CPUL236**  |   |  | Operating Freq. : Max. 100kHz<br>Max. Open Voltage : 1,500Vrms<br>Max. Lamp Wattage : 7.5W |
| **CPUDL328**  |   |  | Operating Freq. : Max. 65kHz<br>Max. Open Voltage : 1,500Vrms<br>Max. Lamp Wattage : 6W×2 |
| **CIUH84**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Open Voltage : 1,000Vrms<br>Max. Lamp Wattage : 1.2W |

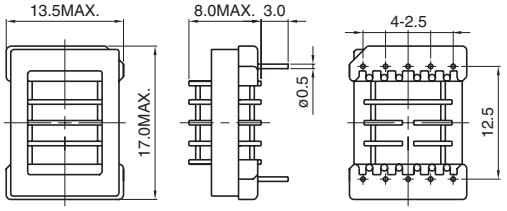
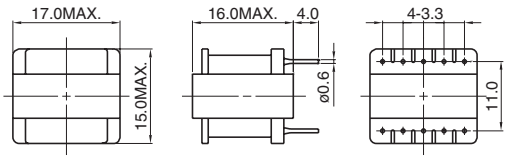
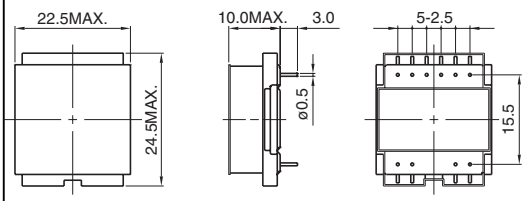
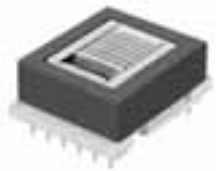
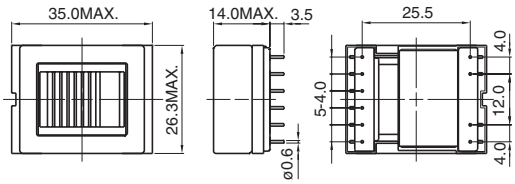
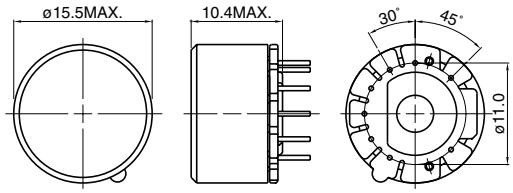
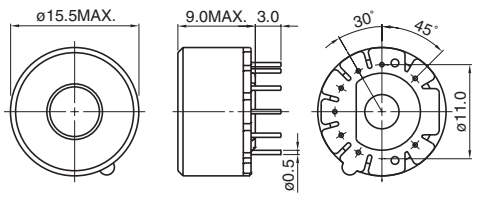
## INVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CEPH145B**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Open Voltage : 1,300Vrms<br>Max. Lamp Wattage : 2.5W |
| **CEPH165**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Open Voltage : 1,300Vrms<br>Max. Lamp Wattage : 3.0W |
| **CEPH209**  |   |  | Operating Freq. : Max. 100kHz<br>Max. Open Voltage : 2,000Vrms<br>Max. Lamp Wattage : 10.0W |
| **CEPH249**  |   |  | Operating Freq. : Max. 100kHz<br>Max. Open Voltage : 2,000Vrms<br>Max. Lamp Wattage : 15.0W |
| **CEPH115**  |   |  | Operating Freq. : Max. 150kHz<br>Max. Open Voltage : 1,300Vrms<br>Max. Lamp Wattage : 3.0W |
| **CIU7D32**  |   |  | Operating Freq. : Max. 100kHz<br>Max. Open Voltage : 1,600Vrms<br>Max. Lamp Wattage : 3.5W |
| **CIUH7D45**  |   |  | Operating Freq. : Max. 200kHz<br>Max.open voltage : 1,600Vrms<br>Max.lamp wattage : 4.0W |

## INVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CIUH8D34**  |   |  | Operating Freq. : Max. 200kHz<br>Max. Open Voltage : 1,600Vrms<br>Max. Lamp Wattage : 3.5W |
| **CIUH8D42**  |   |  | Operating Freq. : Max. 200kHz<br>Max. Open Voltage : 1,600Vrms<br>Max. Lamp Wattage : 3.5W |
| **CIU86**  |   |  | Operating Freq. : Max. 200kHz<br>Max. Open Voltage : 1,500Vrms<br>Max. Lamp Wattage : 3.0W |
| **CIU98**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Open Voltage : 1,800Vrms<br>Max. Lamp Wattage : 6.0W |
| **CIOH175**  |   |  | Operating Freq. : Max. 150kHz<br>Max. Open Voltage : 1,800Vrms<br>Max. Lamp Wattage : 5.0W |

## INVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **EW-12H**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Open Voltage : 900Vrms<br>Max. Lamp Wattage : 1.7W |
| **SEP-16**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Open Voltage : 1,200Vrms<br>Max. Lamp Wattage : 4.0W |
| **EP208B**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Open Voltage : 1,600Vrms<br>Max. Lamp Wattage : 4.0W |
| **EEH2513**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Open Voltage : 2,200Vrms<br>Max. Lamp Wattage : 15.0W |
| **MC159**  |   |  | Operating Freq. : Max. 100kHz<br>Max. Open Voltage : 900Vrms<br>Max. Lamp Wattage : 1.5W |
| **LC158**  |   |  | Operating Freq. : Max. 100kHz<br>Max. Open Voltage : 900Vrms<br>Max. Lamp Wattage : 2.5W |

# Transformer for UP-Down or Up Converter

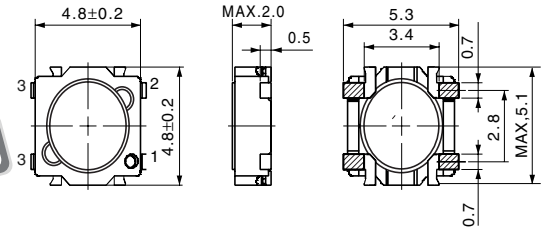
NEW PRODUCTS

## ■ OUTLINE

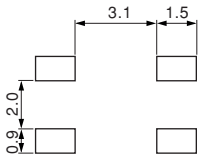
This is small size and high efficient up-down converter transformer which is 2 in 1 construction. (ex. SEPIC converter)
It is possible to output the high voltage which is hard to obtain with an ordinary inductor with sufficient accuracy.
It is available for a white LED back light drive.

## CLS4D18


● DIMENSIONS(mm)

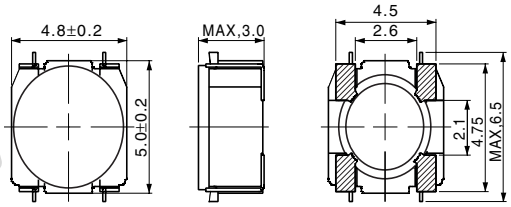



● LAND PATTERNS(mm)

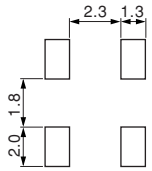



## CLS4D28


● DIMENSIONS(mm)

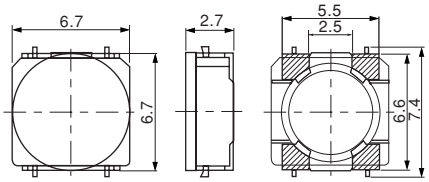



● LAND PATTERNS(mm)

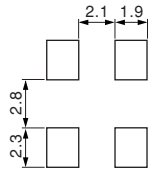



## CLS6D28

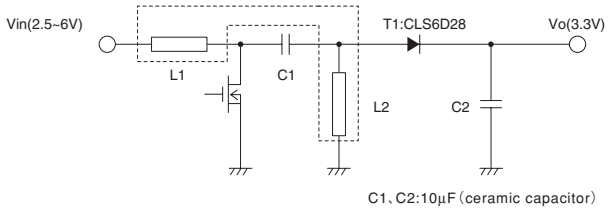
● DIMENSIONS(mm)



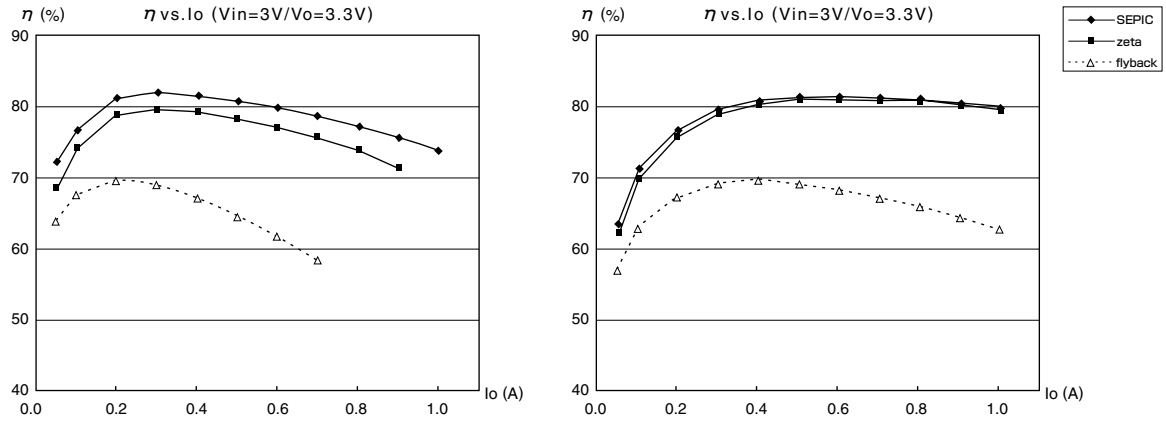

● LAND PATTERNS(mm)




● SEPIC CONVERTER SCHEMATIC




● SEPIC CONVERTER CHARACTERISTIC




About CLS4D18, CLS4D28
※This specification might be changed without notice due to improving. Thank you for your understanding.

# DC/DC Converter Transformers

NEW PRODUCTS

## ■ OUTLINE

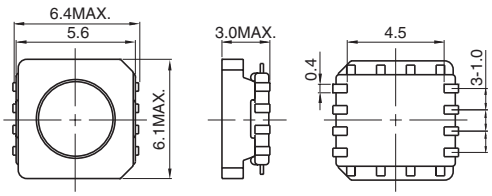
This is the transformer of multiple output type,which has size lineup.
There are Max.3.0mm hight×5mm square and Max.2.5mm hight×7mm square.
It is designed as a special structure to prevent wire breaking and solves the space reduction problem in the DSCs and DVCs.

## CLQ5D27

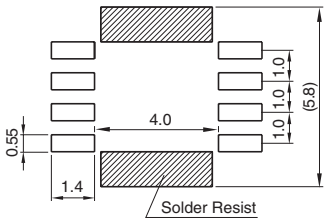
NEW

PROVISIONAL

### ● DIMENSIONS(mm)




### ● LAND PATTERNS(mm)




※In order to prevent short-circuiting, a solder resist is recommended.

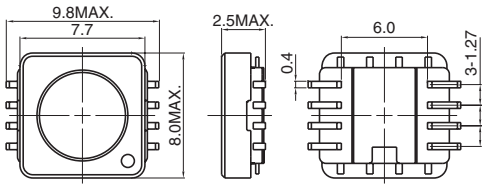
### ● SPECIFICATIONS

| | |
|---|---|
| Max. Operating frequency | 1MHz |
| Max. Operating power | 350mW @ 300kHz |
| | 580mW @ 500kHz |
| | 1.1W @ 1MHz |

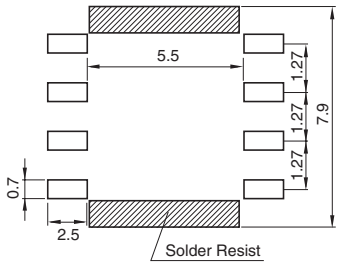
## CLQ7D23

NEW

### ● DIMENSIONS(mm)




### ● LAND PATTERNS(mm)



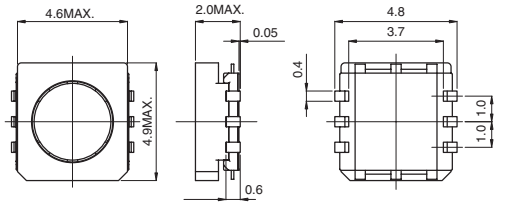
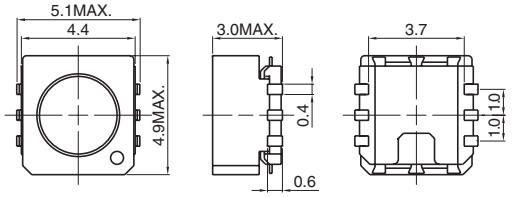
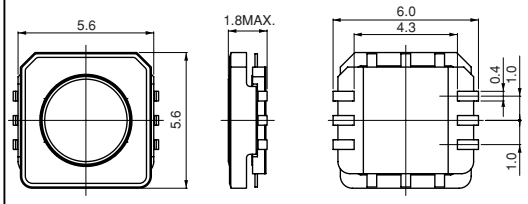
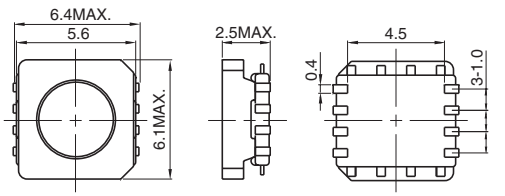
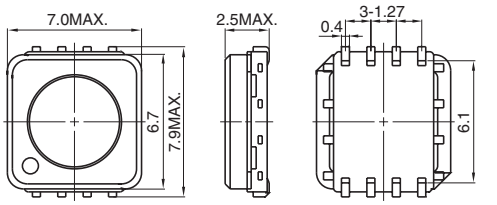
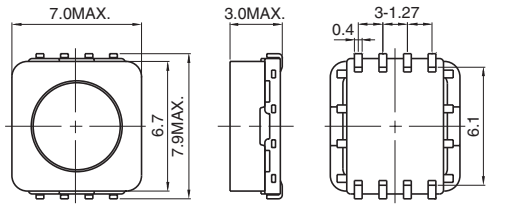
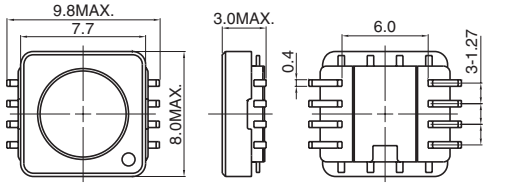
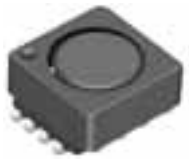
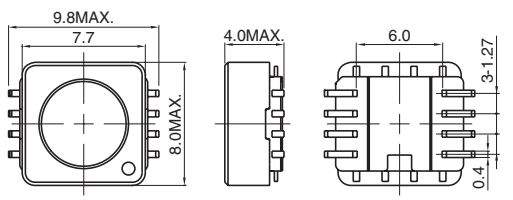

※In order to prevent short-circuiting, a solder resist is recommended.

### ● SPECIFICATIONS

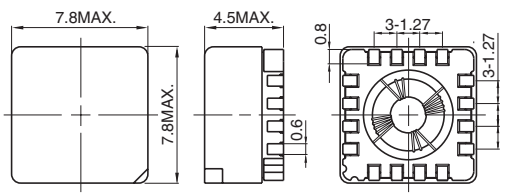
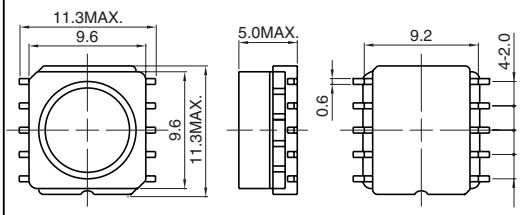
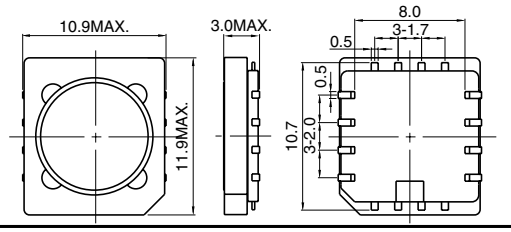
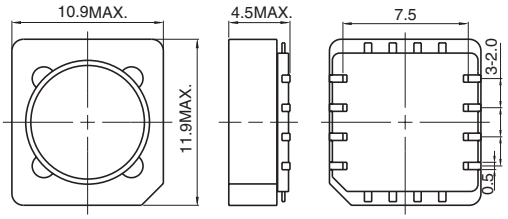
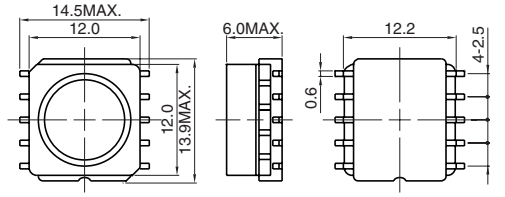
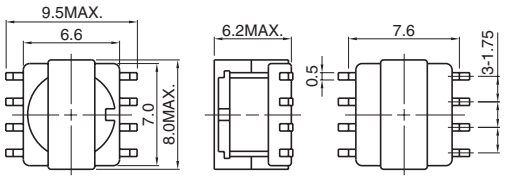
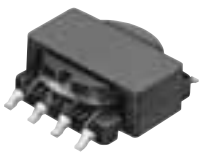
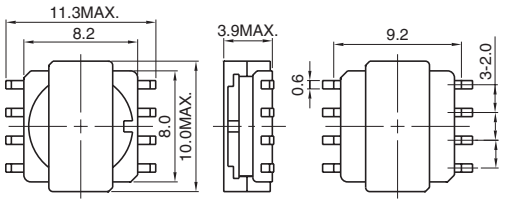
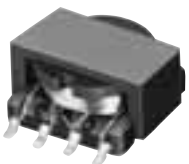
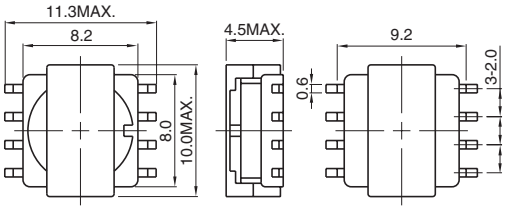
| | |
|---|---|
| Max. Operating frequency | 1MHz |
| Max. Operating power | 450mW @ 300kHz |
| | 700mW @ 500kHz |
| | 1.4W @ 1MHz |

About CLQ5D27
※This specification might be changed without notice due to improving. Thank you for your understanding.

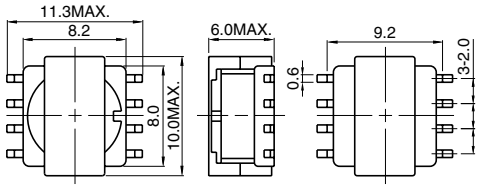
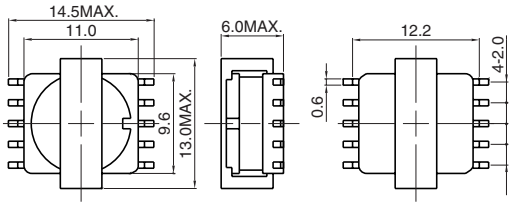
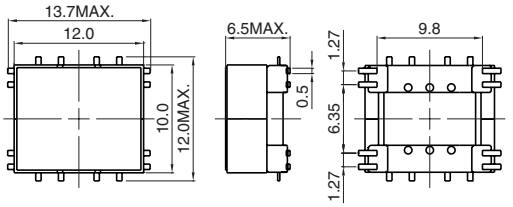
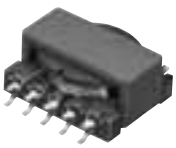
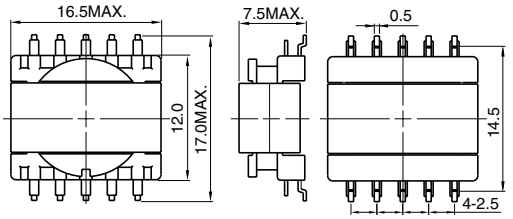
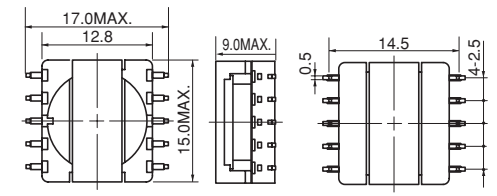
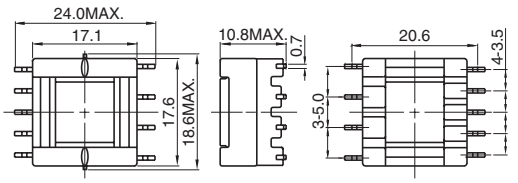
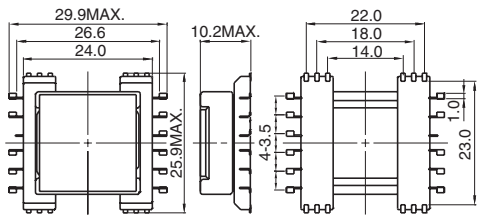
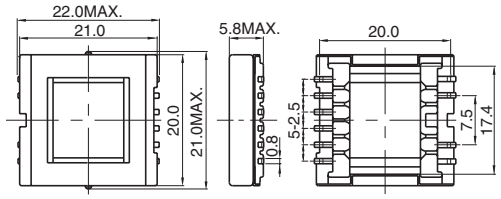
## DC/DC COVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CLQ4D18** NEW  |   |  | Inductance : Max.500μH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 100mW (300kHz)<br>175mW (500kHz)<br>350mW (1MHz) |
| **CLQ4D27**  |   |  | Inductance : Max.500μH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 160mW (300kHz)<br>270mW (500kHz)<br>540mW (1MHz) |
| **CLQ5D16** NEW  |   |  | Inductance : Max.500μH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 290mW (300kHz)<br>480mW (500kHz)<br>930mW (1MHz) |
| **CLQ52**  |   |  | Inductance : Max.800μH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 290mW (300kHz)<br>480mW (500kHz)<br>930mW (1MHz) |
| **CLQ72B**  |   |  | Inductance : Max. 2.0mH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 220mW (300kHz)<br>380mW (500kHz)<br>780mW (1MHz) |
| **CLQ72**  |   |  | Inductance : Max. 3.0mH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 240mW (300kHz)<br>400mW (500kHz)<br>800mW (1MHz) |
| **CLQ7D27**  |   |  | Inductance : Max. 4mH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 640mW (300kHz)<br>1.0W (500kHz)<br>2.0W (1MHz) |
| **CLQ7D37**  |   |  | Inductance : Max. 5.2mH<br>Operating Freq. : Max. 1MHz<br>Max. Operating Power : 1.0W (300kHz)<br>1.8W (500kHz)<br>3.0W (1MHz) |

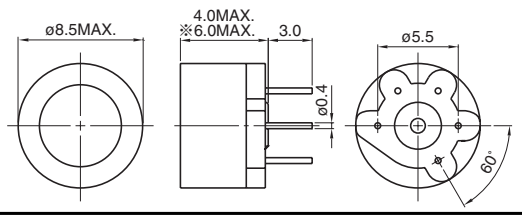
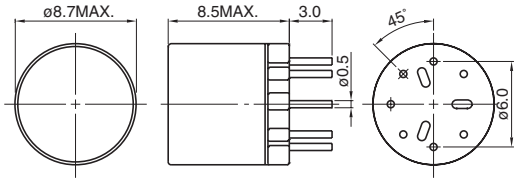
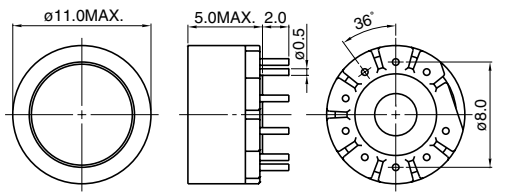
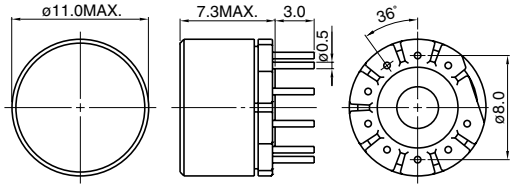
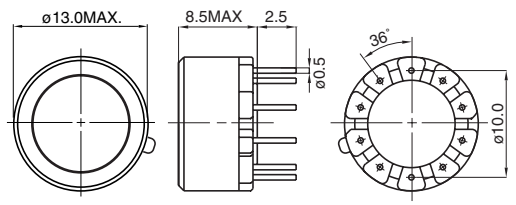
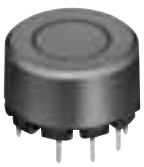
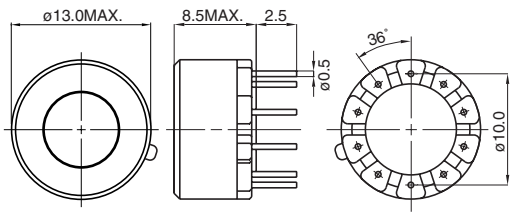
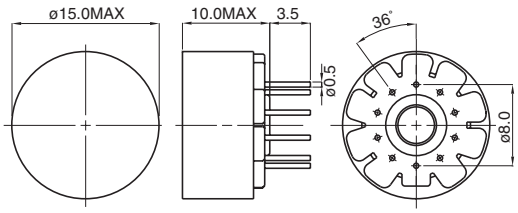
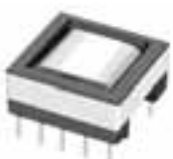
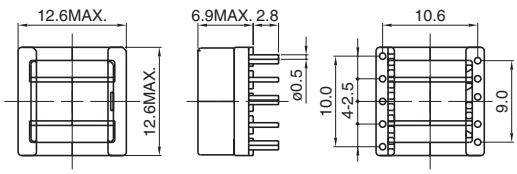
## DC/DC COVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CBM74**  |   |  | Inductance : Max. 1mH<br>Operating Freq. : Max. 1MHz<br>Max. operating power : 700mW(500kHz) |
| **CLS-10**  |   |  | Inductance : Max. 4.3mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 650mW (100kHz)<br>1.5W (300kHz)<br>2.2W (500kHz) |
| **CLQ102**  |   |  | Inductance : Max. 8.2mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 600mW (100kHz)<br>1.4W (300kHz)<br>2.2W (500kHz) |
| **CLQ104**  |   |  | Inductance : Max. 18.0mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 800mW (100kHz)<br>2.0W (300kHz)<br>3.0W (500kHz) |
| **CLS-12**  |   |  | Inductance : 22mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 1.2W (100kHz)<br>2.9W (300kHz)<br>4.3W (500kHz) |
| **CEE-78**  |   |  | Inductance : Max. 300mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 700mW (100kHz)<br>1.6W (300kHz)<br>2.4W (500kHz) |
| **CEE93**  |   |  | Inductance : Max. 40mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 400mW (100kHz)<br>900mW (300kHz)<br>1.8W (500kHz) |
| **CEE94**  |   |  | Inductance : Max. 300mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 870mW (100kHz)<br>2.0W (300kHz)<br>3.0W (500kHz) |

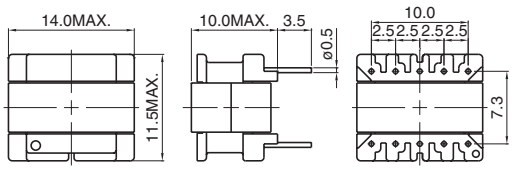
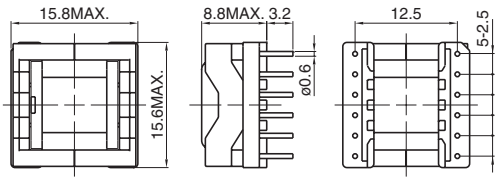
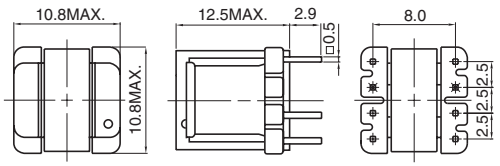
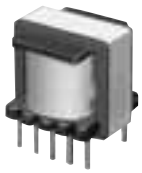
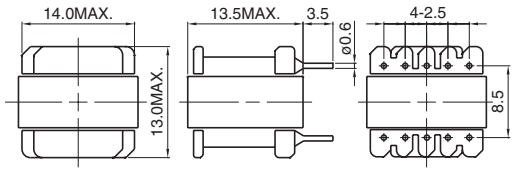
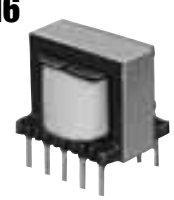
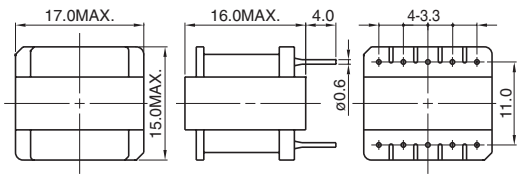
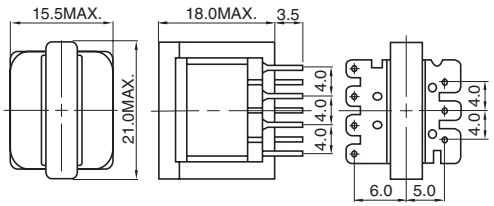
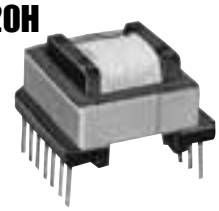
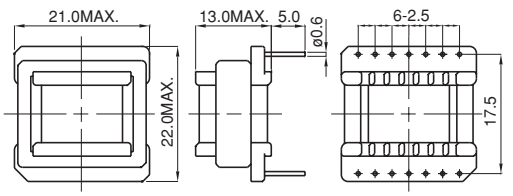
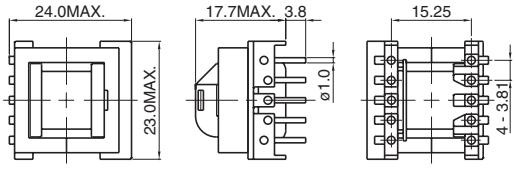
## DC/DC COVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CEE-98**  |   |  | Inductance : Max. 1.1H<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 1.1W (100kHz)<br>2.8W (300kHz)<br>4.2W (500kHz) |
| **CEI-120**  |   |  | Inductance : Max.2.0H<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 1.2W (100kHz)<br>3.8W (300kHz)<br>6.3W (500kHz) |
| **CEEH126**  |   |  | Inductance : Max. 5.2mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 1.0W (100kHz)<br>2.3W (300kHz)<br>3.4W (500kHz) |
| **CEE156**  |   |  | Inductance : Max. 125mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 2.5W (100kHz)<br>6.0W (300kHz)<br>8.8W (500kHz) |
| **CEE158**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 2.6W (100kHz)<br>6.2W (300kHz)<br>9.3W (500kHz) |
| **CEPH1710**  |   |  | Inductance : Max. 700mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 4.0W (100kHz)<br>10.0W (300kHz)<br>14.0W (500kHz) |
| **CEPH199**  |   |  | Inductance : Max. 130mH<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 3.2W (100kHz)<br>7.5W (300kHz)<br>11.0W (500kHz) |
| **CEPH205**  |   |  | Inductance : Max. 3.0H<br>Operating Freq. : Max. 500kHz<br>Max. Operating Power : 800mW (100kHz)<br>2.5W (300kHz)<br>4.2W (500kHz) |

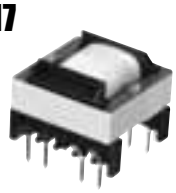
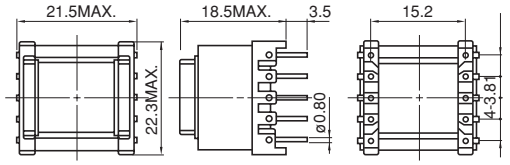
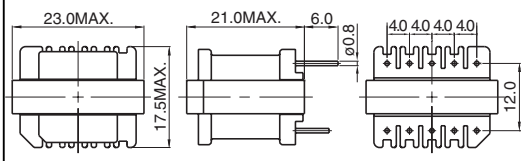
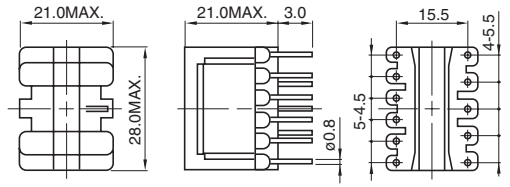
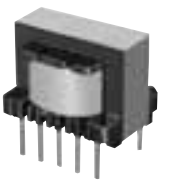
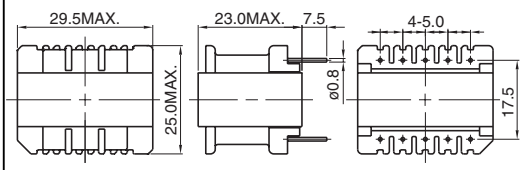
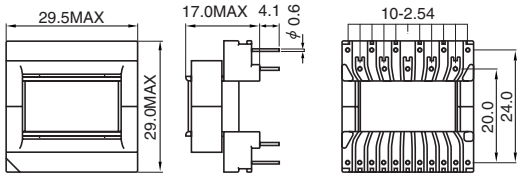
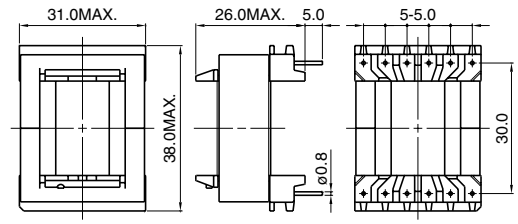
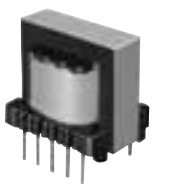
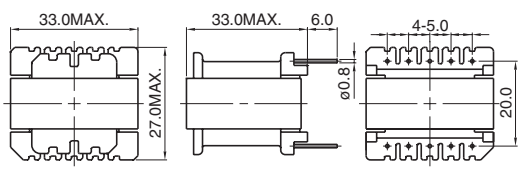
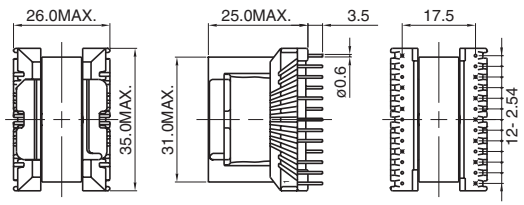
## DC/DC CONVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **LC-8/※LC-8U**  |   |  | **LC-8, LC-8U**<br>Operating Freq. : Max. 500kHz<br>**LC-8**<br>Max. Operating Power : 320mW (100kHz)<br>750mW (300kHz)<br>**LC-8U**<br>Max. Operating Power : 370mW (100kHz)<br>1.1W (300kHz)<br>1.8W (500kHz) |
| **MC-080U**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 330mW (100kHz)<br>1.0W (300kHz)<br>1.7W (500kHz) |
| **LC-10**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 360mW (100kHz)<br>1.1W (300kHz)<br>1.8W (500kHz) |
| **MC-100C**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 960mW (100kHz)<br>2.2W (300kHz)<br>3.4W (500kHz) |
| **LC-128**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 1.5W (100kHz)<br>3.6W (300kHz)<br>5.0W (500kHz) |
| **LC128B**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 0.8W (100kHz)<br>1.9W (300kHz)<br>2.9W (500kHz) |
| **LC-15**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 2.7W (100kHz)<br>6.5W (300kHz) |
| **EEH116**  |   |  | Inductance : Max. 5.4mH<br>Operating freq. : Max. 500kHz<br>Max. Operating Power : 2.5W (100kHz)<br>5.8W (300kHz)<br>8.6W (500kHz) |

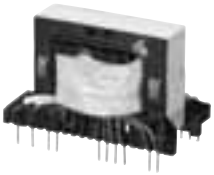
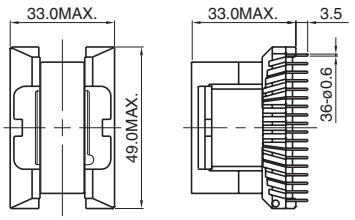
## DC/DC COVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **EER-137**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 2.0W (100kHz)<br>6.1W (300kHz) |
| **EEH157**  |   |  | Inductance : Max. 6.5mH<br>Operating freq. : Max. 300kHz<br>Max. Operating Power : 2.5W (100kHz)<br>7.6W (300kHz) |
| **EE1011**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 2.5W (100kHz)<br>6.0W (300kHz)<br>8.9W (500kHz) |
| **EE-13**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 3.1W (100kHz)<br>9.2W (300kHz) |
| **SEE-16**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 4.0W (100kHz)<br>12.0W (300kHz) |
| **EI-191**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 8.7W (100kHz)<br>20.0W (300kHz) |
| **EI-20H**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 4.8W (100kHz)<br>11.0W (300kHz) |
| **EEH2017**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 4.0W (100kHz)<br>10.0W (300kHz)<br>14.0W (500kHz) |

## DC/DC CONVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **EF2017**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 3.3W (100kHz)<br>10.0W (300kHz)<br>16.5W (500kHz) |
| **EI-22**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 7.8W (100kHz)<br>18.0W (300kHz) |
| **EI-255B**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 16.0W (100kHz)<br>38.0W (300kHz) |
| **EI-28**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 22.0W (100kHz)<br>51.0W (300kHz) |
| **EPH2815** NEW  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 14.0W (100kHz)<br>32.0W (300kHz) |
| **ERH2826**  |   |  | Operating Freq. : Max. 500kHz<br>Max. Operating Power : 11.0W (100kHz)<br>27.0W (300kHz)<br>40.0W (500kHz) |
| **EI-30**  |   |  | Operating Freq. : Max. 300kHz<br>Max. Operating Power : 29.0W (100kHz)<br>67.0W (300kHz) |
| **ER3023**  |   |  | Operating Freq. : Max. 500kHz<br>Max. operating power : 20W(500kHz)<br>Weight : 30g |

## DC/DC CONVERTER TRANSFORMERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **ER4831**  |   | E3 | Inductance : Max. 56mH<br>Operating Freq. : Max. 500kHz<br>Max. operating power : 60W(500kHz)<br>Weight : 75g |

# Common Mode Choke Coils for DC LINES

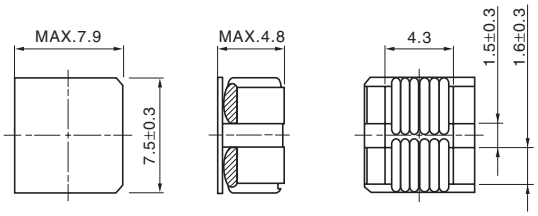
NEW PRODUCTS

## ■ OUTLINE

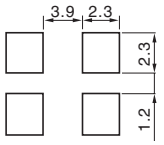
DC line noise filter for LCDTV,PC and Electronic Equipments.

## CPFC805

● DIMENSIONS(mm)



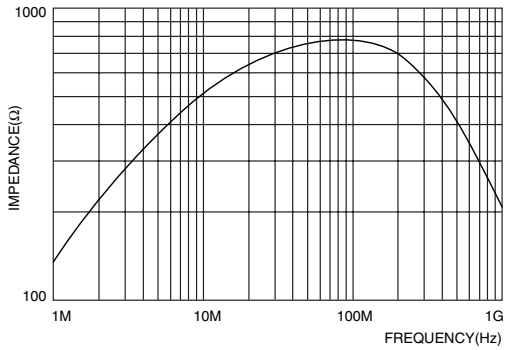

● LAND PATTERNS(mm)




● SPECIFICATIONS

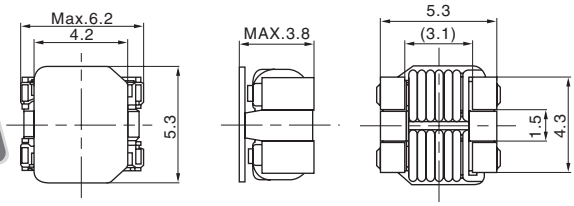
| Impedance at100MHz | D.C.R (1-4) (2-3) | Rated current |
|---|---|---|
| 500Ω or more | 7.5mΩ or less | 4.5A |

● IMPEDANCE CHARACTERISTICS

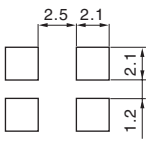



## CPF6D36


● DIMENSIONS(mm)



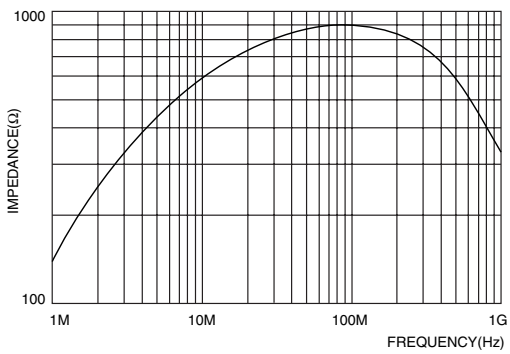

● LAND PATTERNS(mm)




● SPECIFICATIONS

| Impedance at100MHz | D.C.R (1-4) (2-3) | Rated current |
|---|---|---|
| 600Ω or more | 22mΩ or less | 2.5A |

● IMPEDANCE CHARACTERISTICS




About CPF6D36

※This specification might be changed without notice due to improving. Thank you for your understanding.

# Common Mode Choke Coil for Communication

NEW PRODUCTS



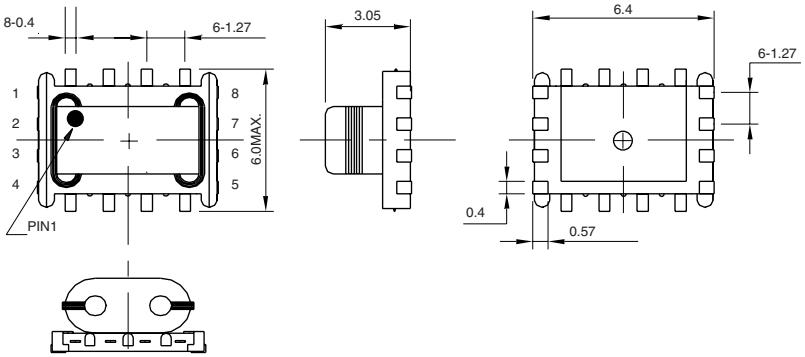
## ■ OUTLINE

It is common mode noise filter of small and SMD type
It has 4-line construction and is suitable to IEEE1394.

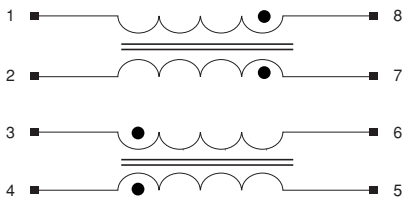
## CBM6068

PROVISIONAL

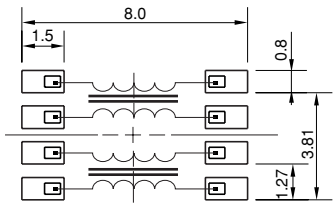
### ● DIMENSIONS(mm)




### ● MEASUREMENT CIRCUIT DIAGRAM




### ● LAND PATTERNS(mm)



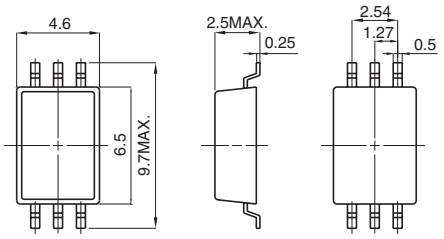
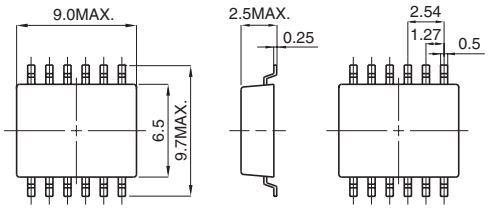
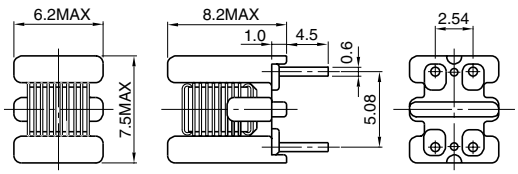
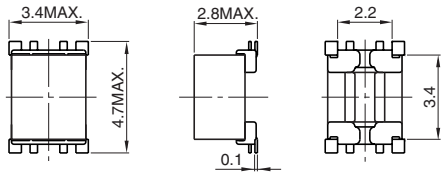

SUGGEST PCB LAYOUT
TOLERANCE:

### ● SPECIFICATIONS

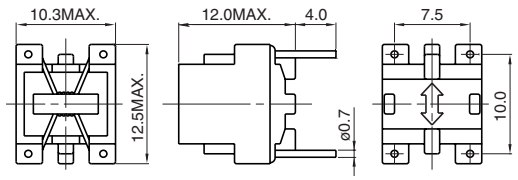
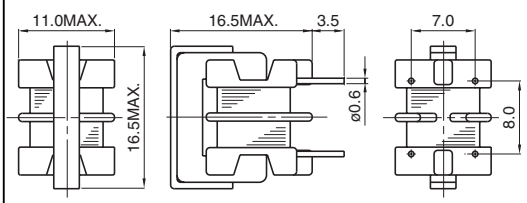
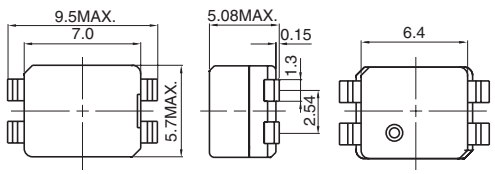
| ITEM | SPECIFICATION | CONDITION |
|---|---|---|
| D.C.R (1-8), (2-7), (3-6), (4-5) | 0.3Ω MAX | 20℃ |
| Idc | 0.65 A MAX | |
| INSERTION LOSS | -2.8±2.0dB | 50 MHz |
| | -7.3±2.5dB | 100 MHz |
| | -12.0±3.0dB | 300 MHz |
| | -14.0±3.0dB | 500 MHz |
| HIPOT<br>(1-8) TO (2,3,4, CORE),(2-7) TO (3,4, CORE)<br>(3-6) TO (4, CORE),(4-5) TO CORE | DC 100 V | 0.5mA, 1 minute. |
| INSULATION RESISTANCE<br>(1-8) TO (2,3,4, CORE),(2-7) TO (3,4, CORE), (3-6) TO (4, CORE),(4-5) TO CORE | 100 MΩ MIN | 100Vdc, 1 minute |
| COMMON MODE IMPEDANCE | 185Ω Typical | 100 MHz |

About CBM6068
※This specification might be changed without notice due to improving. Thank you for your understanding.

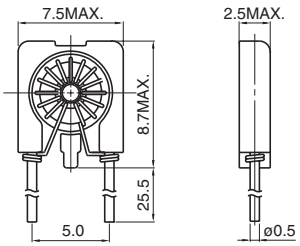
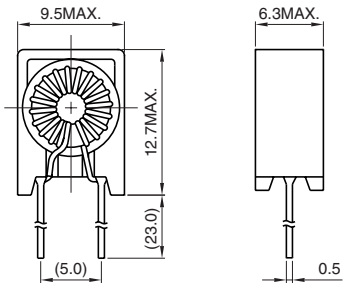
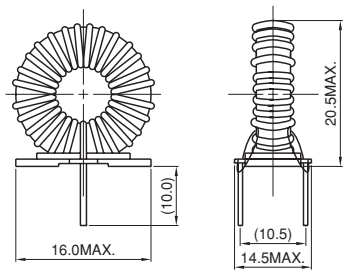
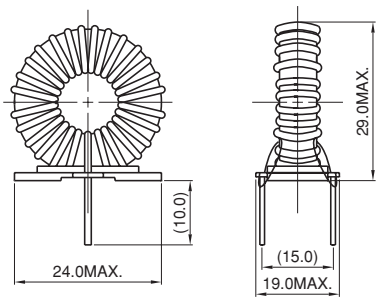
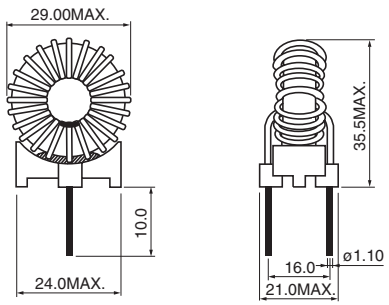
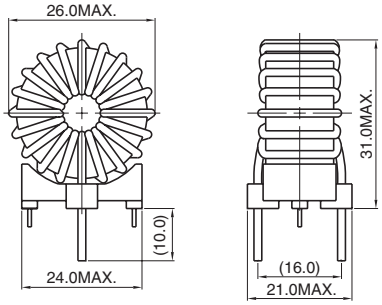
## SIGNAL COMMON MODE CHOKE COILS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CLP42**  |   |  | Inductance : 50μH – 500μH<br>Leakage Inductance : Max.0.3μH – Max.0.35μH<br>Line capacitance : Max.6.0pF – Max.10.0pF<br>D.C.R : Max.250mΩ – Max.300mΩ |
| **CLP82**  |   |  | Inductance : Max.500μH<br>Leakage Inductance : Max.0.25μH<br>Line capacitance : Max.10.0pF<br>D.C.R : Max.700mΩ |
| **SFC68**  |   |  | Inductance : 4.3μH – 121.5μH<br>D.C.R. : 19.5mΩ – 114mΩ<br>Rated Current : 600mA – 2.9A |
| **CRR32**  |   |  | Impedance : 350Ω – 800Ω (at 100MHz)<br>D.C.R. : 200mΩ – 500mΩ<br>Rated Current : 400mA – 800mA |

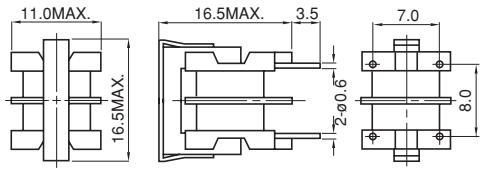
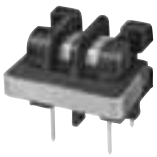
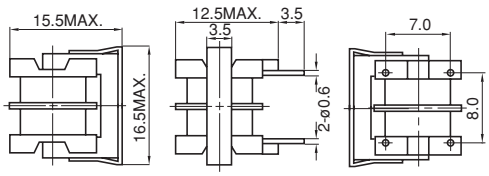
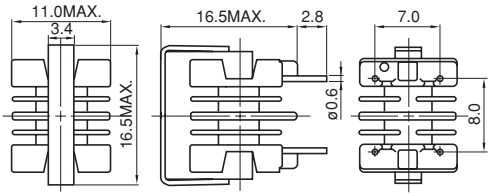
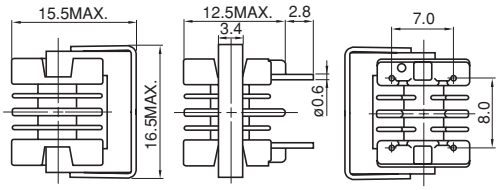
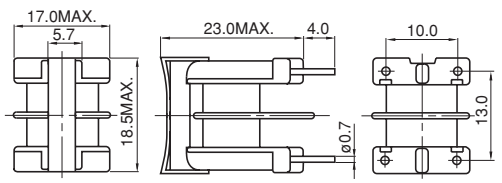
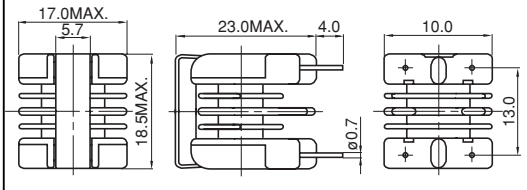
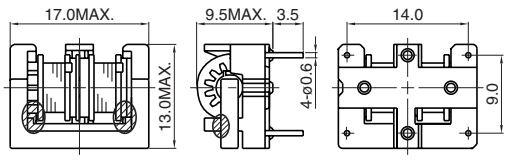
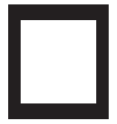
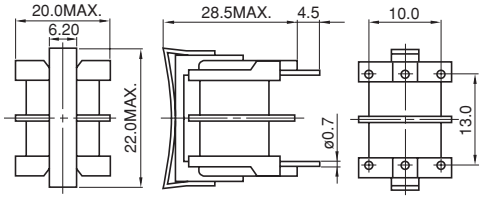
## DC COMMON MODE CHOKE COILS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **BM1012LF**  |   |  | Inductance : 0.20μH – 2.69μH<br>Rated current : 2.2A – 3.4A |
| **UU9TF**  |   |  | Inductance : 8.6mH<br>D.C.R. : 3.0Ω<br>Rated current : 300mA |
| **CPFC74**  |   |  | Impedance : 100Ω – 1kΩ (at100MHz)<br>D.C.R. : 60mΩ – 120mΩ<br>Rated current : 1.5A – 3.0A |

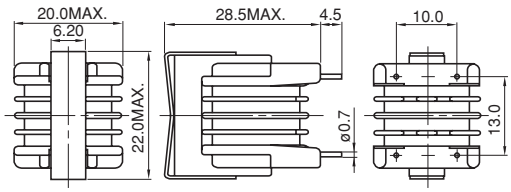
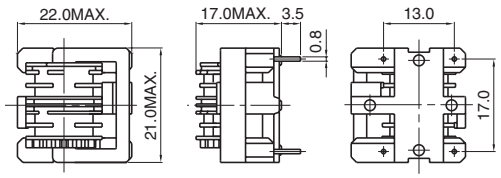
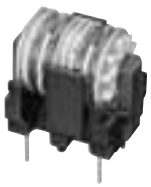
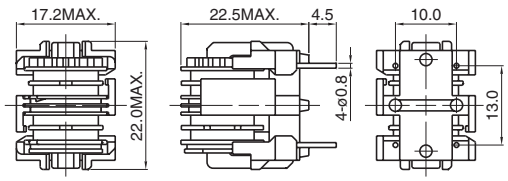
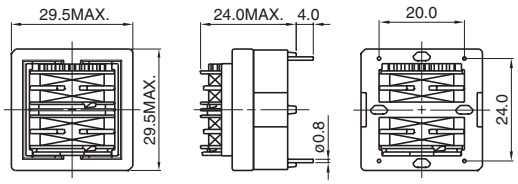
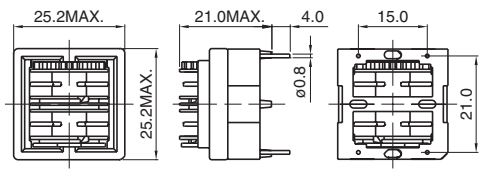
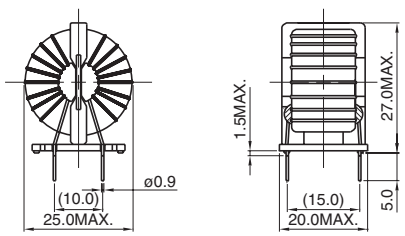
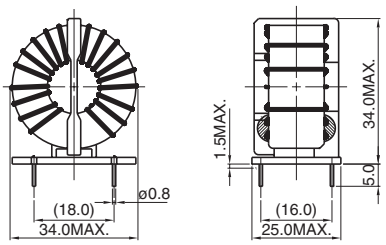
## NORMAL MODE CHOKE COILS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **BM27**  |   | ○ | Impedance : 300Ω – 900Ω (10MHz)<br>D.C.R : 150mΩ – 250mΩ |
| **SLF0912**  |   | ○ | Inductance : 18.0μH<br>D.C.R. : 44mΩ<br>Rated current : 1.8A |
| **PFN1316**  |   | ○ | Inductance : 21μH – 37μH<br>D.C.R. : 43mΩ – 58mΩ<br>Rated current : 2.0A – 5.4A |
| **PFN1825**  |   | ○ | Inductance : 32μH – 88μH<br>D.C.R. : 31mΩ – 53mΩ<br>Rated current : 3.7A – 4.9A |
| **PFN2029**  |   | ○ | Inductance : 52μH – 83μH<br>D.C.R. : 30mΩ – 38mΩ<br>Rated current : 5.4A – 6.1A |
| **PFN2028**  |   | ○ | Inductance : 52μH – 83μH<br>D.C.R. : 30mΩ – 38mΩ<br>Rated current : 5.4A – 6.1A |

## AC COMMON MODE CHOKE COILS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **UU9LF**  |   |  | Inductance : 470μH – 10.0mH<br>D.C.R. : 150mΩ – 4.0Ω<br>Rated current : 200mA – 1.0A |
| **UU9LFH**  |   |  | Inductance : 470μH – 10.0mH<br>D.C.R. : 150mΩ – 40Ω<br>Rated current : 200mA – 1.0A |
| **UU9LFB**  |   |  | Inductance : Min. 19.0mH<br>D.C.R. : 6.5Ω<br>Rated current : 150mA |
| **UU9LFBH**  |   |  | Inductance : Min.19.0mH<br>D.C.R. : 6.5Ω<br>Rated current : 150mA |
| **UU10LF**  |   |  | Inductance : 3.3mH – 51.0mH<br>D.C.R. : 710mΩ – 9.12Ω<br>Rated current : 150mA – 650mA |
| **UU10LFB**  |   |  | Inductance : 3.3mH – 51.0mH<br>D.C.R. : 710mΩ – 9.12Ω<br>Rated current : 150mA – 650mA |
| **LF1290**  |   |  | Inductance : 470μH – 10.0mH<br>D.C.R. : 150mΩ – 4.0Ω<br>Rated current : 200mA – 1.1A |
| **UU16LF**  |   |  | Inductance : 1.5mH – 30mH<br>D.C.R. : 125mΩ – 2.5Ω<br>Rated current : 400mA – 1.9A |

## AC COMMON MODE CHOKE COILS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **UU16LFB**  |   |  | Inductance : 1.5mH – 30mH<br>D.C.R. : 200mΩ – 2.5Ω<br>Rated current : 400mA – 1.9A |
| **LF2115**  |   |  | Inductance : 2.2mH – 33mH<br>D.C.R. : 240mΩ – 3.42Ω<br>Rated current : 300mA – 1.3A |
| **LF2020**  |   |  | Inductance : 2.2mH – 33mH<br>D.C.R. : 240mΩ – 3.42Ω<br>Rated current : 300mA – 1.3A |
| **LF2823**  |   |  | Inductance : 1.8mH – 68.0mH<br>D.C.R. : 72mΩ – 1.82Ω<br>Rated current : 600mA – 2.6A |
| **LF2420**  |   |  | Inductance : 2.5mH – 35mH<br>D.C.R. : 130mΩ – 1.58Ω<br>Rated current : 600mA – 2.0A |
| **PFC2225B**  |   |  | Inductance : 450μH – 7.0mH<br>D.C.R. : 8.5mΩ – 135mΩ<br>Rated AC current : 2.5A – 10.0A |
| **PFC2831**  |   |  | Inductance : 600μH – 1.5mH<br>D.C.R. : 4.8mΩ – 18.5mΩ<br>Rated current : 8.5A – 17A |

# Transponder • RF-ID (TX)

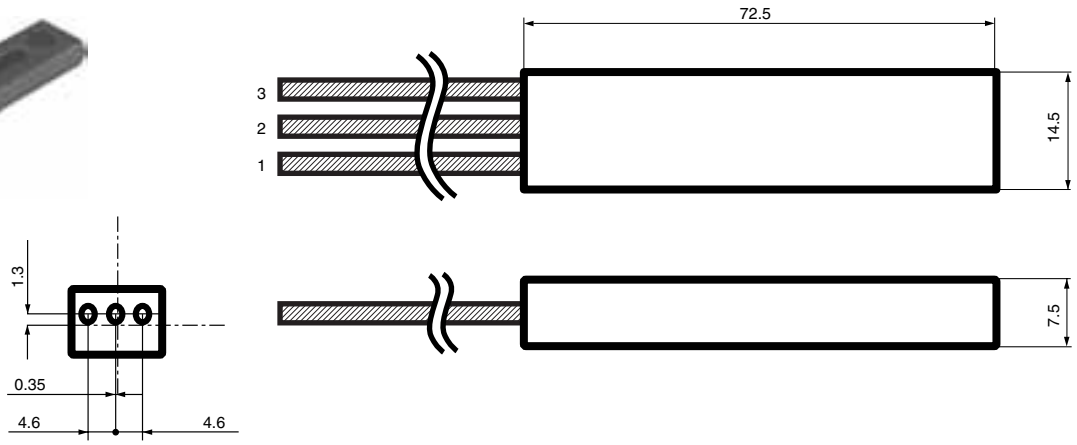
NEW PRODUCTS

## ■ OUTLINE

Suitable for Key less enter and Home security system's Tx-ant

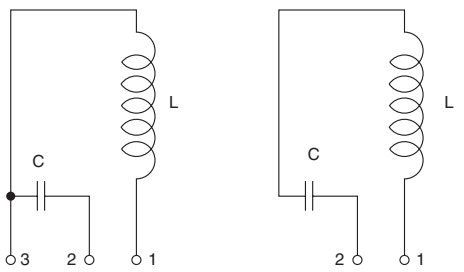
## AS737

● DIMENSIONS (mm)




PROVISIONAL

● SCHEMATICS




✻ It is possible 2 terminal type (①−②)

### ◆FEATURES

1. Pre-tune Ant provide high efficiency in customer line
2. Molding improved from environmental suffering
3. 2 terminals out available
4. Packaging can be available (with Harness, Connector and Casing)

### ● SPECIFICATIONS (REFERENCE)

| | |
|---|---|
| Tuning Frequency | 125.0±1.0kHz within |
| Impedance | 1.0Ω (typ.) |

✻ It is possible for customer specification at harness length and connector form.

※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

# Noise Filter

NEW PRODUCTS

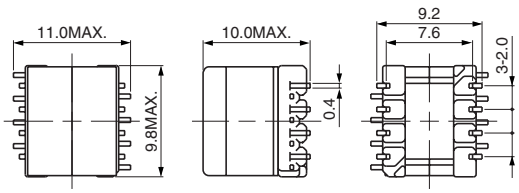
## ■ OUTLINE

It is AM Radio Noise reduction filter which is combined with an antenna of Smart Entry System.

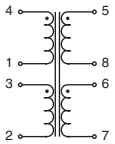


## CEP79

● DIMENSIONS (mm)



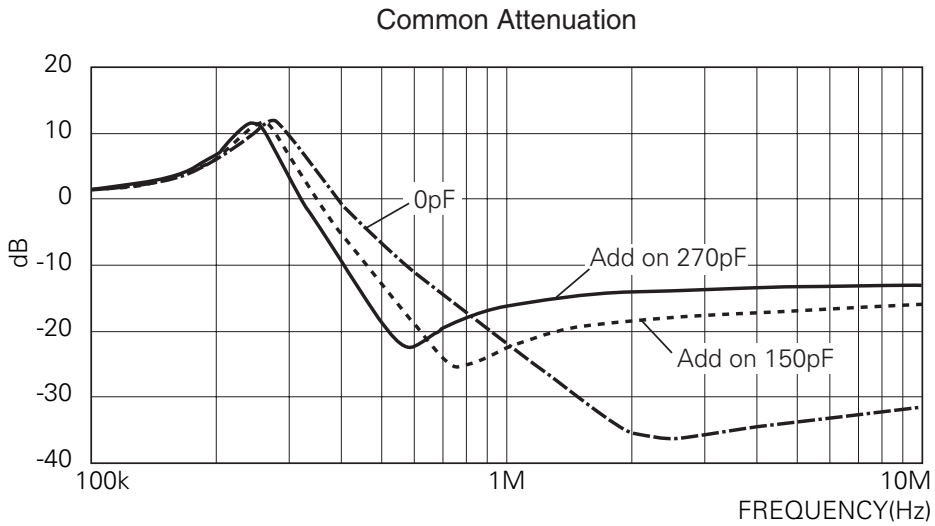

● SCHEMATICS




● SPECIFICATIONS

| | |
|---|---|
| Inductance (4-1) | 260μH ±35% (2–1, 4–3 tie) |
| D.C.R (4–1) | 50mΩ below (3–4, 2–1 tie) |
| D.C.R (8–5) | 50mΩ below (5–6, 8–7 tie) |
| Temperature Rise Current (Typ.) | 2.5A@△=30˚C (D.C.Current)<br>6.8A@△=30˚C (Dummy Load Current) |

● Characteristics



# Transponder • RF-ID (RX)

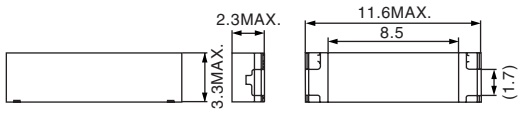
## ■ OUTLINE

Antenna coils for Keyless Entry Systems, Smart Entry Systems and Passive Entry Systems RF-ID etc.

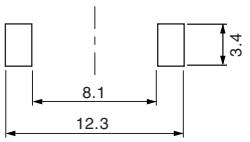
### CAS11D21

NEW

● DIMENSIONS (mm)

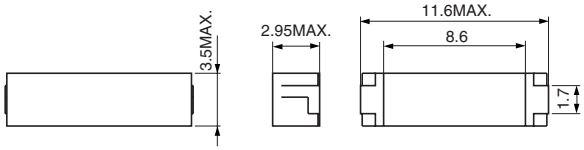



● LAND PATTERNS (mm)

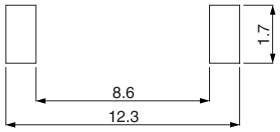



### CAS11D28

● DIMENSIONS (mm)

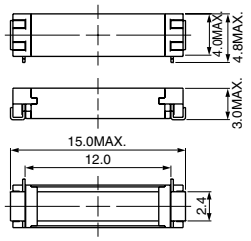



● LAND PATTERNS (mm)

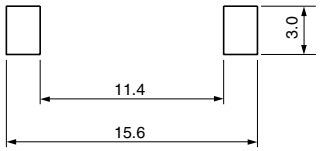



### CAS14D26

● DIMENSIONS (mm)



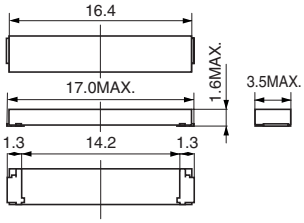

● LAND PATTERNS (mm)



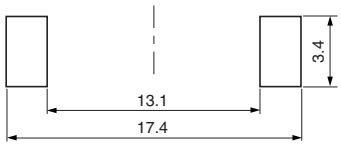

### CAS16D14

NEW

● DIMENSIONS (mm)

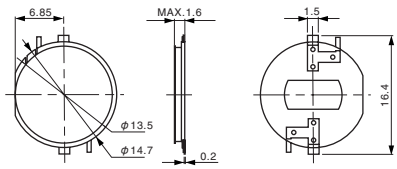



● LAND PATTERNS (mm)

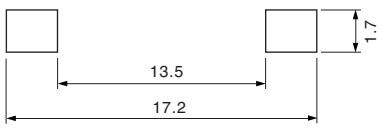



### CAK15D14

● DIMENSIONS (mm)




● LAND PATTERNS (mm)




## ● SPECIFICATIONS

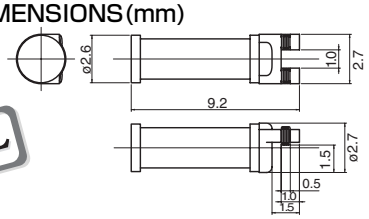
| Product Type | Inductance | Q | S.R.F. | Sensitivity | Frequency |
|---|---|---|---|---|---|
| CAS11D21 | 2.3mH | Min. 30 | 1MHz | Min. 29mV/A/m | 125kHz |
| CAS11D28 | 500μH～7.2mH | Min. 30 | 700kHz | 50mV/μT (7.2mH) | 125kHz |
| CAS14D26 | 900μH～2.4mH | Min. 30 | 1MHz | 38mV/μT (2.3mH) | 125kHz |
| CAS16D14 | 1mH～6mH | 35 (TYP.) | 650kHz | 68mV/μT (6mH) | 125kHz |
| CAK15D14 | 1mH～6mH | 13 (TYP.) | 1MHz | 55mV/μT | 125kHz |

## ■ OUTLINE

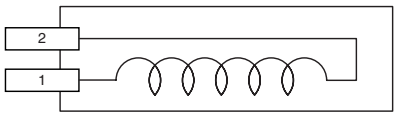
This is the RF-ID transponder coil, which is for related security equipment and keyless entry systems for automobiles.

### AR9D27


● DIMENSIONS(mm)




● SCHEMATICS




● SPECIFICATIONS

| Inductance | Q | S.R.F. | Sensitivity | Frequency |
|---|---|---|---|---|
| 1.0mH~5.0mH | Min. 30 | 1000kHz | 41mV/μT (5.0mH) | 125kHz |

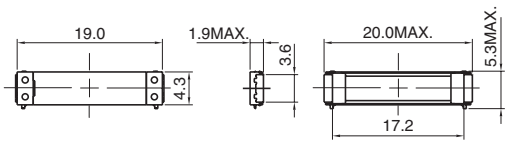
※This specification might be changed without notice due to under developing and improving. Thank you for your understanding.

## ■ OUTLINE

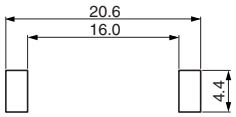
It is transponder antenna coil which also performs as key-less entry antenna built into key case.

### CAS19D17C

● DIMENSIONS(mm)




● LAND PATTERNS(mm)




● SPECIFICATIONS(REFERENCE)

| Inductance | Q | S.R.F. | Sensitivity | Frequency |
|---|---|---|---|---|
| 1mH~7mH | Min. 40 | Min. 400kHz | 82mV/μT (7mH) | 125kHz |

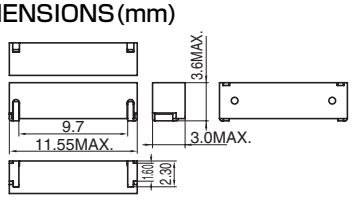
# TPMS • RF-ID

## ■ OUTLINE

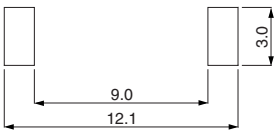
It is TPMS(Tire Pressure Monitoring System)

### CAS113

● DIMENSIONS(mm)



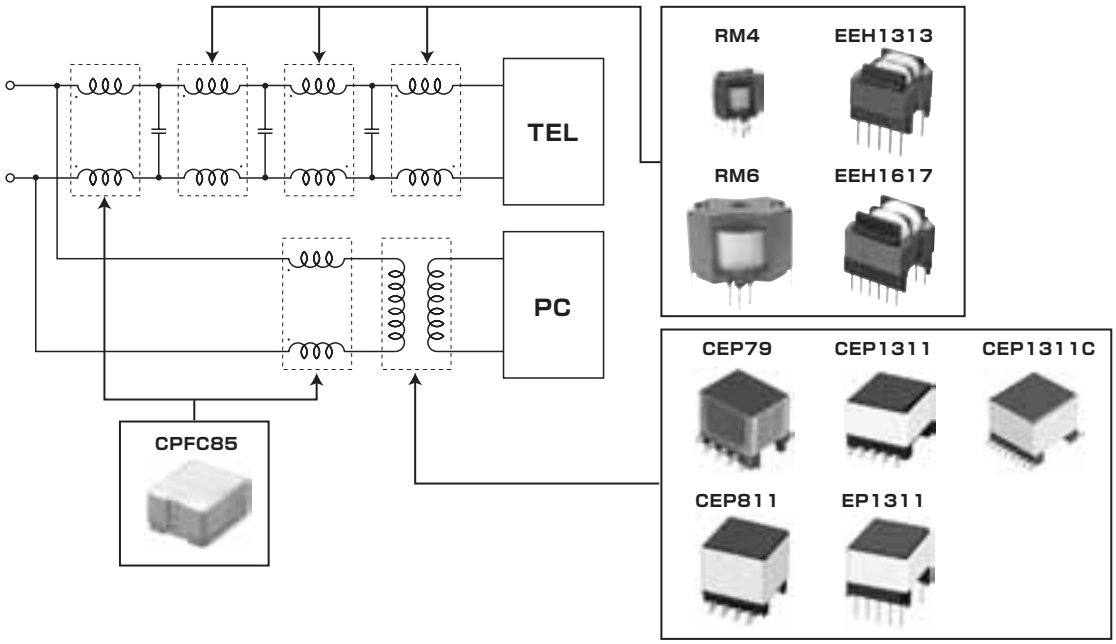

● LAND PATTERNS(mm)




● SPECIFICATIONS(REFERENCE)

| Inductance | Q | S.R.F. | Sensitivity | Frequency |
|---|---|---|---|---|
| 7.2mH | 55 | 700kHz | 50mVp-p/μT | 125kHz |
| 2.89mH | 45 | 700kHz | 31mVp-p/μT | 125kHz |

# For xDSL LINE TRANSFORMER & SPLITTER COILS





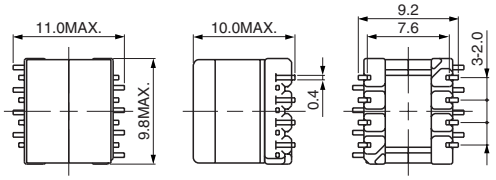

## Line Transformer

### ■ OUTLINE

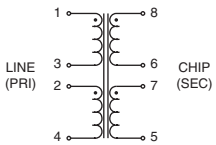
It is a xDSL line transformer which corresponds to the smaller foot print demand for limited equipment installation space in central offices.
Application is the xDSL line transformer used in central offices.

### CEP79

● DIMENSIONS(mm)




● SCHEMATICS




◆APPLICATION

Line transformer for control operation side.

● SPECIFICATIONS

| | | |
|---|---|---|
| Impedance (1–4) | Designed to reflect 100Ω on the PRI with 100Ω load on SEC. | |
| Inductance (1–4) | 850μH ±10% | (10kHz 0.1V) 2+3 tie |
| Turns Ratio | 1 : 1 (±1%) | (PRI : SEC) |
| Leakage Inductance (1–5) | 3.6μH (TYP) | (100kHz 0.1V) 2+3, 6+7 tie, 5+8 short |
| D.C.R (1–3) | 1.2Ω(TYP) | (20˚C) |
| D.C.R (2–4) | 0.9Ω(TYP) | (20˚C) |
| D.C.R (5–7) | 0.85Ω(TYP) | (20˚C) |
| D.C.R (6–8) | 0.8Ω(TYP) | (20˚C) |
| Insertion loss | 0.1dB(TYP) | (30kHz–1.1MHz) |
| Total Harmonic Distortion | –75dB(TYP) | (40kHz, 5.3Vrms) |
| | –90dB(TYP) | (100kHz, 5.3Vrms) |
| Longitudinal Balance | 70dB(TYP) | (100kHz) (6, 7 GND) |
| Isolation Voltage | 1875Vrms 1SEC | (50Hz/60Hz) between PRI-SEC |

Longitudinal Balance : This characteristic was measured with our longitudinal test circuit boad.

# xDSL LINE TRANSFORMER

NEW PRODUCTS

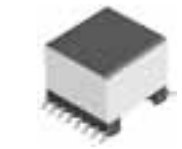


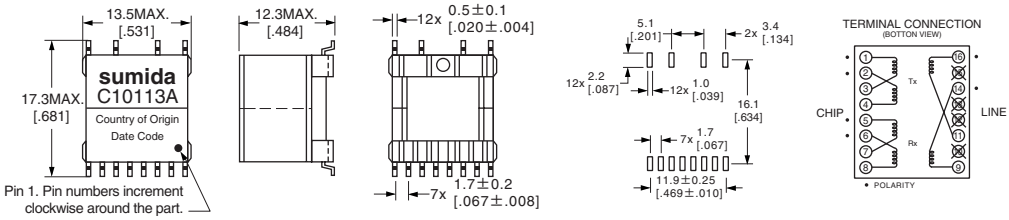
## ■ OUTLINE

Application is the xDSL line transformer.

## CPE1311C

● DIMENSIONS(mm)






## ● FEATURES

- Approved by GlobespanVirata for use with the following chipsets : Argon™ Ⅱ/ⅡPlus, Argon™ Ⅲ/ⅢPlus, Centragate™, Titanium™ Ultra/Ultra Plus, and Viking™ Ⅱ
- Superb THD performance (-93 dB typ. from 20 kHz, Tx and Rx windings)
- Complies with EN 60950/UL60950/BABT/TÜV supplementary insulation requirments for working voltages up to 250 Vrms

## ● ELECTICAL SPECIFICATIONS

| Paramenter | Conditions | Limit | Units | Tolerance |
|---|---|---|---|---|
| Inductance(OCL) | line side, 10kHz, 0.1V, (16–9) [tie 11+14] | 700 | μH | ±6% |
| Turms Ratio(T/R) | chip - Tx:line=(1–4):(16–9) [tie 2+3, 11+14] | 1:3.95 | N/A | +1.5% −1.0% |
| | chip - Rx:line=(5–8):(16–9) [tie 6+7, 11+14] | 1:2.04 | N/A | ±1.5% |
| Total Harmonic Distortion(THD) | Tx and Rx windings, 20kHz, 5.3Vrms | −87 | dB | Max. |
| Leakage Inductance(LL) | 100kHz, 0.1V, (16–9) [tie 1+4, 2+3, 11+14] | 32 | μH | Max. |
| | 100kHz, 0.1V, (16–9) [tie 5+8, 6+7, 11+14] | 32 | μH | Max. |
| Longitudinal Balance(LB) | 35kHz - 650kHz (16–9) [tie 11+14] | 53 | dB | Min. |
| DC Resistance(DCR) | line side, (16–9) [tie 11+14] | 3.5 | Ω | Max. |
| | chip side - Tx, (1–4) [tie 2+3] | 0.98 | Ω | Max. |
| | chip side - Rx, (5–8) [tie 6+7] | 1.74 | Ω | Max. |
| Interwinding Capacitance(Cww) | 100kHz, 0.1V, (1–16) [tie 2+3, 11+14] | 50 | pF | Max. |
| | 100kHz, 0.1V, (5–16) [tie 6+7, 11+14] | 50 | pF | Max. |
| Dielectric Breakdown Isolation (equivalent to 1 min, 1500 Vrms) | 1 sec, (1–16) [tie 2+3, 4+5, 6+7, 11+14] | 1875 | Vrms | Min. |
| Impedance | reflected on line side | 100 | Ω | Non. |
| | load on chip side, Tx | 5.6 | Ω | Non. |
| | load on chip side, Rx | 300 | Ω | Non. |
| Operating Temperature | | −40 to +85 | ℃ | Non. |

# xDSL LINE TRANSFORMER

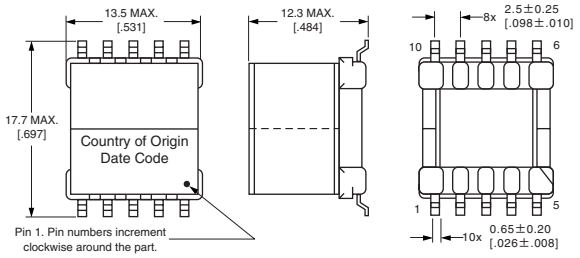
NEW PRODUCTS

## ■ OUTLINE

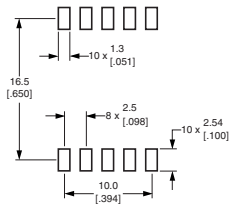
Application is the xDSL line transformer.

## CEP1311

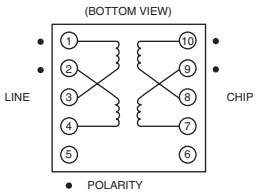
### ● DIMENSIONS(mm)




### ● RECOMENNED LAND PATTRNS

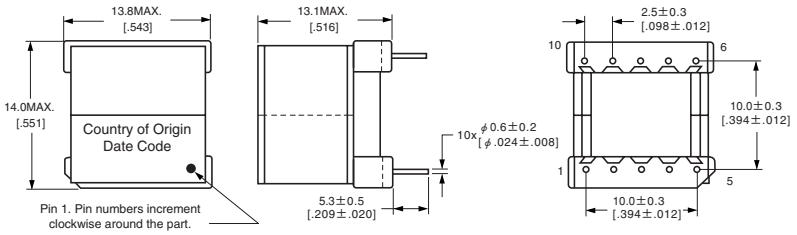



### ● SCHEMATICS

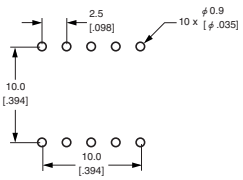



## EP1311

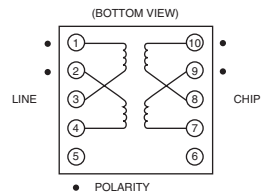
### ● DIMENSIONS(mm)




### ● TERMINAL LAYOUT




### ● SCHEMATICS




### ● FEATURES

- Approved by TI for use with the following chipsets :
  AR7, AR7V, AR7VWi.
  C10120 & T10120 for Annex A,C.
  C10121 & T10121 for Annex B.
- Superb LB from 30kHz to 1.1MHz
- Complies with EN 60950/BABT/TUV supplementary
  insulation requirments for working voltages up to 250 Vrms

### ● ELECTRICAL SPECIFICATIONS

| Sumida Type | Part No. | INDUCTANCE (Ls)1–4 10kHz, 0.1V, (2+3)Tie | TURNS RATIO (10-7):(1–4) | LL MAX (1–4) 100kHz, 0.10Vac | THD MAX (dB) 100kHz, 5.3Vrms | LB MAX (dB) 30kHz-1.1MHz | DCR MAX (Ω) (1–4)/(10–7) | IMPEDANCE (1–4)/(10–7) |
|---|---|---|---|---|---|---|---|---|
| CEP1311 | C10120 | 1.5mH ±6% WITHIN | 1:2(+–2%) | 14uH (2+3, 8+9)Tie | –90db | 60db | 1.82/0.76 | 100Ω/25Ω |
| CEP1311 | C10121 | 400uH ±5% WITHIN | 1:2(+–2%) | 7uH (2+3, 8+9)Tie | –90db | 60db | 0.63/0.33 | 100Ω/25Ω |
| EP1311 | T10120 | 1.5mH ±6% WITHIN | 1:2(+–2%) | 14uH (2+3, 8+9)Tie | –90db | 60db | 1.82/0.76 | 100Ω/25Ω |
| EP1311 | T10121 | 400uH ±5% WITHIN | 1:2(+–2%) | 7uH (2+3, 8+9)Tie | –90db | 60db | 0.63/0.33 | 100Ω/25Ω |

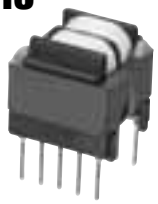
# xDSL POTS SPLITTER COILS



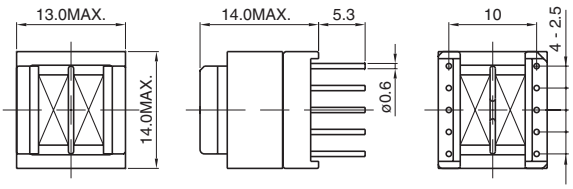
## ■ OUTLINE

It is pot splitter coil for xDSL. correspondence with each ITU-T (Annex-A/E/C) standard.
Using EE core for compatibility and competitive cost merit.

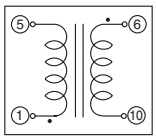
## EEH1313



● DIMENSIONS(mm)




● SCHEMATICS




### ◆OUTLINE

Apot splitter coil for ADSL Splitter.

### ◆FEATURES

Correspond ence with each ITU-T(Annex-A/E/C) standard.
Using EE core for compatibility and competitive cost merit.

### ◆APPLICATION

ADSL Splitter

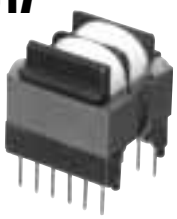
### ◆SPECIFICATIONS

| Part No. | Inductace | D.C.R |
|---|---|---|
| 50M-020 | 2.4mH (Typ.) (at 1kHz, 0.1V) | 2.7Ω(Typ.) |
| 50M-021 | 0.983mH (Typ.) (at 1kHz, 0.1V) | 1.0Ω(Typ.) |
| 50M-022 | 0.712mH (Typ.) (at 1kHz, 0.1V) | 0.9Ω(Typ.) |

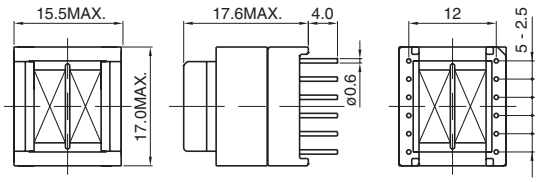
### ◆Weight

5g

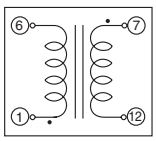
## EEH1617



● DIMENSIONS(mm)




● SCHEMATICS




### ◆OUTLINE

Inductor available for ADSL Splitter.

### ◆FEATURES

Correspondence with each ITU-T(Annex-A/E/C) standard.
Using EE core for compatibility and competitive cost merit.

### ◆APPLICATION

ADSL Splitters

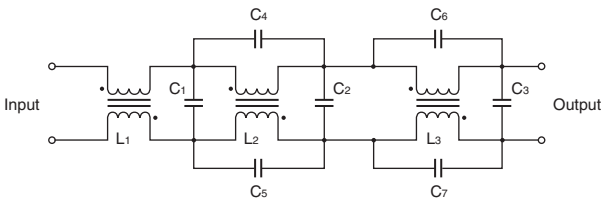
### ◆SPECIFICATIONS

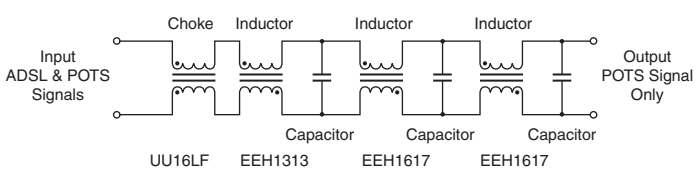
| Part No. | Inductace | D.C.R |
|---|---|---|
| 50M-026 | 10.5mH(Typ.) (at 1kHz,0.1V) | 5.8Ω(Typ.) |
| 50M-027 | 4.5mH(Typ.) (at 1kHz,0.1V) | 2.3Ω(Typ.) |
| 50M-028 | 4.0mH(Typ.) (at 1kHz,0.1V) | 2.2Ω(Typ.) |

### ◆Weight

10g

## ● Application Circuit

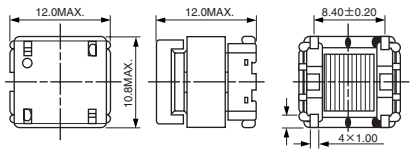


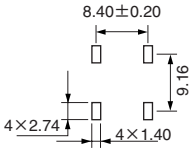



# xDSL POTS SPLITTER COILS

## CEEH1011

● DIMENSIONS(mm) ● RECOMENNED LAND PATTRNS ● SCHEMATICS



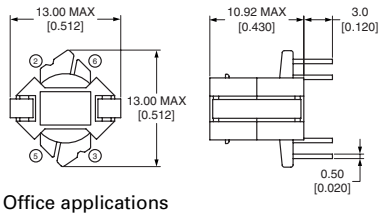

◆FEATURES
- Small footprint for Central Office applications
- For use with Legerity's Intergrated Voice and Data (IVD) solution
- Customized inductance values available

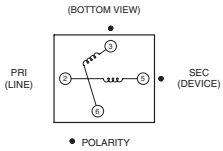
● SPECIFICATIONS

| Part No. | Inductance MIN (mH) | | | | LL MAX 100kHz, 0.10 Vac | THD MAX (dB) 50kHz, 12.3Vrms | LB MAX (dB) 200Hz-3200Hz | DCR MAX (Ω) PRI/SEC |
|---|---|---|---|---|---|---|---|---|
| | 20kHz 0.1 Vac, 0 Adc | 20kHz 0.1 Vac, 0.12 Adc | 20kHz 0.1 Vac, 0.23 Adc | 20kHz 0.1 Vac, 0.46 Adc | | | | |
| C15100 | 8.74 | 8.46 | 4.00 | | 25μH | -85db | 65db | 26.0/26.0 |
| C15108 | 3.42 | 3.40 | | 1.00 | 11μH | -85db | 65db | 18.5/18.5 |

## RM4

● DIMENSIONS(mm) ● SCHEMATICS




◆FEATURES
- Small footprint for Central Office applications
- For use with Legerity's Intergrated Voice and Data (IVD) solution
- Customized inductance values available

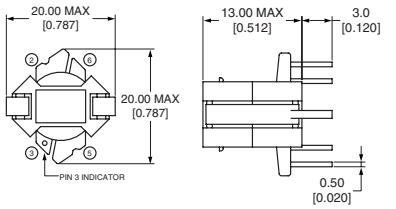
● SPECIFICATIONS

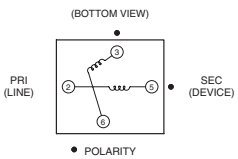
| Part No. | Inductance MIN (mH) | | | LL MAX 100kHz, 0.10 Vac | THD MAX (dB) 50kHz, 12.3Vrms | LB MAX (dB) 200Hz-3200Hz | DCR MAX (Ω) PRI/SEC |
|---|---|---|---|---|---|---|---|
| | 20kHz 0.1 Vac, 0 Adc | 20kHz 0.1 Vac, 0.12 Adc | 20kHz 0.1 Vac, 0.23 Adc | | | | |
| T15107 | 8.74 | 8.46 | 4.00 | 8μH | -85db | 65db | 26/26 |

T= Through Hole

## RM6

● DIMENSIONS(mm) ● SCHEMATICS




◆FEATURES
- Excellent Longitudinal Balance
- For use with Legerity's Intergrated Voice and Data(IVD) solution
- Customized inductance values available

● SPECIFICATIONS

| Part No. | Inductance MIN (mH) | | | LL MAX 100kHz, 0.10 Vac | THD MAX (dB) 50kHz, 12.3Vrms | LB MAX (dB) 200Hz-3200Hz | DCR MAX (Ω) PRI/SEC |
|---|---|---|---|---|---|---|---|
| | 20kHz 0.1 Vac, 0 Adc | 20kHz 0.1 Vac, 0.12 Adc | 20kHz 0.1 Vac, 0.23 Adc | | | | |
| T15101 | 6.44 | 6.30 | 4.00 | 8μH | -85db | 65db | 11/11 |
| T15102 | 8.74 | 8.46 | 4.00 | 8μH | -85db | 65db | 13.6/13.6 |

T= Through Hole

# xDSL COMMON MODE CHOKE COIL

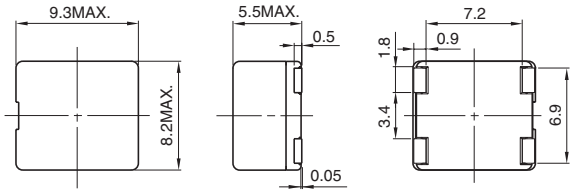


## ■ OUTLINE

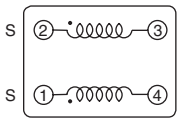
SMD Common Mode Choke avail for xDSL modem.
This is small size, SMD and having that impedance is 15kΩ at 1.0MHz.

## CPFC85

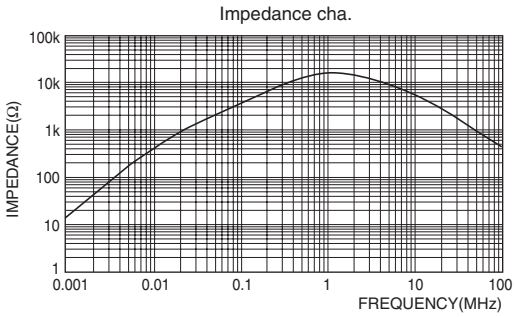
### ● DIMENSIONS(mm)

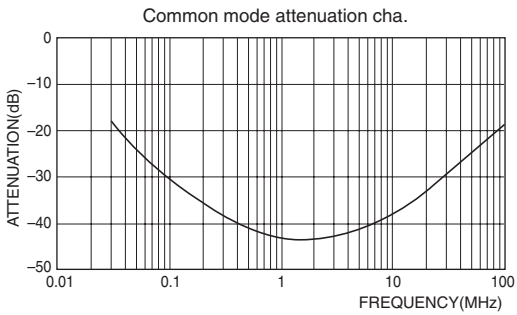



### ● SCHEMATICS




### ● IMPEDANCE/COMMON MODE ATTENUATION CHAR.




### ● ELECTRICAL SPECIFICATIONS

| | | |
|---|---|---|
| INDUCTANCE | Min. 3.3mH | 100kHz |
| D. C. R (1–4) (2–3) | Max. 0.6Ω | |
| IMPEDANCE (1–4) (2–3) | Min. 2.3Ω | 100kHz |
| IMPEDANCE (1–4) (2–3) | Min. 9.8Ω | 1MHz |
| IMPEDANCE (1–4) (2–3) | Min. 4.2Ω | 10MHz |
| COMMON MODE ATTENUATION | 30 dB(typ.) | 100kHz |
| COMMON MODE ATTENUATION | 43 dB(typ.) | 1MHz |
| COMMON MODE ATTENUATION | 38 dB(typ.) | 10MHz |
| WITHSTAND VOLTAGE (line-line) | Min. 700Vrms (2 sec.) | 50Hz/60Hz |

### ◆FEATURES

1. EMI Filter of 15kΩ Impedance at 1.0MHz.
2. Small size.
3. Reflow soldering is possible as SMD type.

### ◆APPLICATION

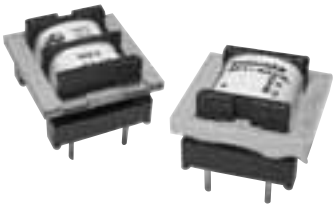
1. ADSL Modem
2. Telecom applications

# STB/FAX/MODEM TRANSFORMERS

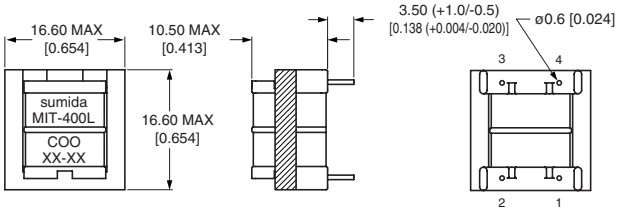
## ■ OUTLINE

This is a Fax modem transformer of V.32(9.6kbps) to V.92 (56kbps) conformity.
It is a UL/BABT authorization article.

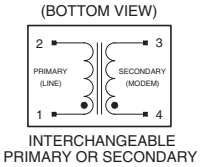
## MT1610/MT1610B



● DIMENSIONS(mm)




● SCHEMATICS



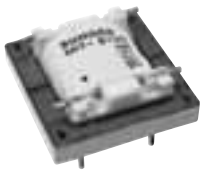

◆FEATURES
- Internationally Safety Approved for Supplementary Isolation
- EN 60950/BABT/TÜV
- Low cost
- V.92 (56kbps) to V.32 bis (14.4kbps) THT fax/modem transformer
- Reinforced safety encapsulated versions also available

● SPECIFICATIONS

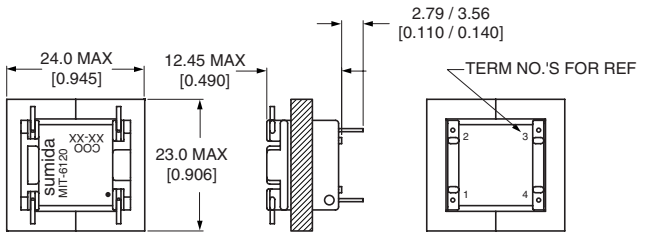
| Part No. | Speed | Impedance(Ω) PRI:SEC | THD@600Hz (dB) | IL (dB) | RL (dB) | LL (mH) | DCR (Ω) PRI:SEC |
|---|---|---|---|---|---|---|---|
| MIT4033L | V.92 | 600:420 | -85 | 1.90 | 20 | 3.7 | 82/106 |
| MIT2050L | V.92 | 600:560 | -87 | 1.55 | 17 | 17 | 70/70 |
| MIT250L | V.34 | 600:560 | -84 | 1.55 | 17 | 17 | 70/70 |
| MIT400L | V.32bis | 600:600 | -62 | 1.80 | 14 | 15 | 70/70 |

● MIT4033L Approved By TDK use for 79M1903chip.

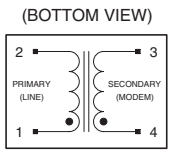
## MT2212



● DIMENSIONS(mm)




● SCHEMATICS




◆FEATURES
- Internationally Safety Approved for Supplementary Isolation
- EN 60950/BABT/TÜV
- Low cost
- V.32 (9.6 kbps) THT fax/modem "Wet" Transformer ("Wet" means ability to withstand some current.)

● SPECIFICATIONS

| Part No. | Speed | Impedance(Ω) PRI:SEC | IL (dB) | RL (dB) | LL (mH) | DCR (Ω) PRI:SEC | DC Current PRI (mA DC) |
|---|---|---|---|---|---|---|---|
| MIT6120 | V.32 | 600:301 | 3.75 | 17 | 11 | 152/152 | 65 |
| MIT4115V | V.32 | 600:470 | 2.65 | 14 | 7.5 | 110/128 | 100 |

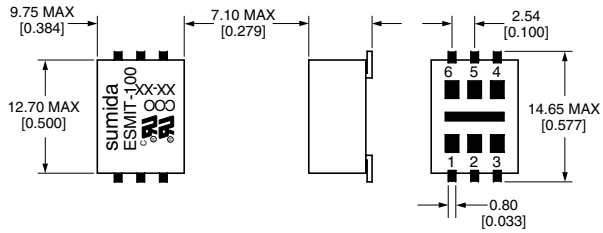
● MIT4115V Approved By TDK use for 73M2901, 73M2901cand 73C 2901CL chip.

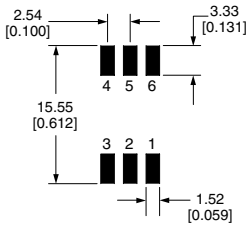
# STB/FAX/MODEM TRANSFORMERS

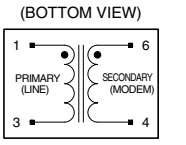


## CMT97B

● DIMENSIONS(mm) ● LAND PATTERNS(mm) ● SCHEMATICS




INTERCHANGEABLE
PRIMARY OR SECONDARY

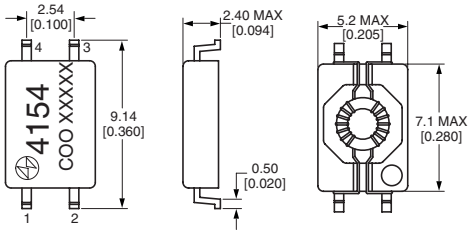
◆FEATURES
- Internationally Safety Approved for Reinforced Isolation
- EN 60950/BABT/ÜV
- V.92 (56kbps) to V.32 bis (14.4kbps) encapsulated SMT fax/modem transformer

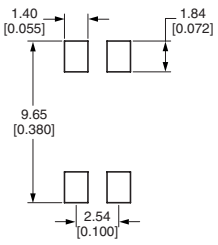
● SPECIFICATIONS

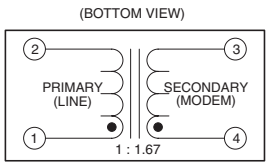
| Part No. | Speed | Impedance(Ω) PRI:SEC | THD@600Hz (dB) | IL (dB) | RL (dB) | LL (mH) | DCR (Ω) PRI:SEC |
|---|---|---|---|---|---|---|---|
| ESMIT3300 | V.92 | 600:260 | -89 | 3.50 | 20 | 10.3 | 180/180 |
| ESMIT3181 | V.92 | 600:280 | -90 | 4.60 | 20 | 9.3 | 235/260 |
| ESMIT300 | V.92 | 600:330 | -84 | 2.50 | 22 | 7.5 | 150/150 |
| ESMIT190 | V.32bis | 600:420 | -78 | 1.85 | 21 | 4.6 | 90/90 |
| ESMIT100 | V.32bis | 600:390 | -80 | 2.0 | 24 | 5.6 | 115/115 |

## CBM5D20

● DIMENSIONS(mm) ● LAND PATTERNS(mm) ● SCHEMATICS



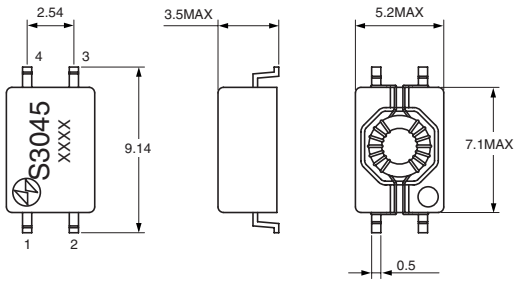

◆FEATURES
- EN 60950/BABT/ÜV
- V.92 (56kbps) Digital Isolation Barrier for Conexant DAAs

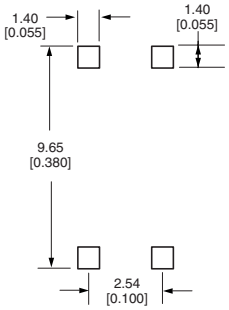
● SPECIFICATIONS

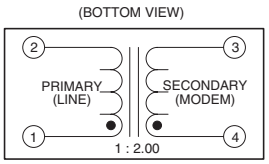
| Part No. | Speed | Turns Ratio | LsPRI@100KHz Min. (μH) | Cww (pF) | Self Res IR (MHz) | D.C.R(Ω) PRI/SEC |
|---|---|---|---|---|---|---|
| EMIT4152 | V.92 | 1:2.6 | 40 | 4 | 8.0 | 0.250/0.450 |
| EMIT4153 | V.92 | 1:2.0 | 40 | 4 | 8.0 | 0.250/0.450 |
| EMIT4155 | V.92 | 1:1.67 | 30 (at10kHz) | 3 | 8.0 | 0.250/0.325 |

## CBM5D33

● DIMENSIONS(mm) ● LAND PATTERNS(mm) ● SCHEMATICS




◆FEATURES
- Safety standard approved
- V.92 (56 kbps) Digital Isolation Barrier for Conexant DAAs

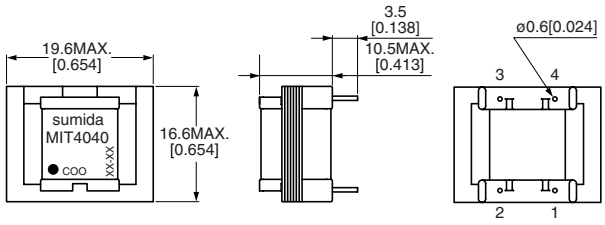
● SPECIFICATIONS

| Part No. | Speed | Turns Ratio | LsPRI@100kHz Min. (μH) | D.C.R(Ω) PRI/SEC |
|---|---|---|---|---|
| ESMIT4163 | V.92 | 1:2.0 | 40 | 0.250/0.450 |
| ESMIT4165 | V.92 | 1:1.67 | 30(at 10KHz) | 0.250/0.325 |

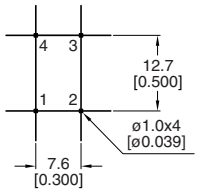
# STB/FAX/MODEM TRANSFORMER

## MT1910

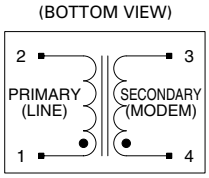
● DIMENSIONS(mm)

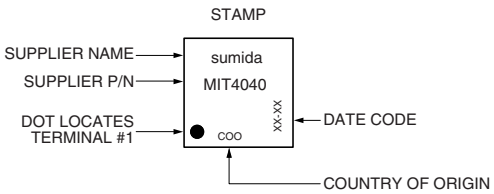



● TERMINAL LAYOUT




● SCHEMATICS




◆FEATURES

• V.32 (9.6kbps) THT fax/modem "Dry" Transformer. ("Dry" means un-ability to withstand Current).

● SPECIFICATIONS

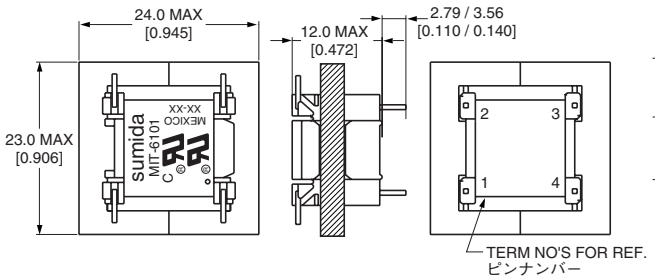
| PARAMETERS | CONDITIONS | MIN | TYP | MAX | UNITS |
|---|---|---|---|---|---|
| Impedance | Reflected on Primary | – | 600 | – | Ohms |
| | With Load on Secondary | – | 530 | – | Ohms |
| Total Harmonic Distortion | @ 600 Hz, -10 dBm | – | −80 | – | dB |
| Insertion Loss | Per IEEE method; @ 1000 Hz | – | — | 1.00 | dB |
| Dielectric Rating | 1 Minute | 1500 | – | – | Vrms |
| | Trip Leakage Current | – | – | 200 | µA |
| DC Resistance @ 20℃, ± 10 % | Primary Winding | – | 37 | – | Ohms |
| | Secondary Winding | – | 37 | – | Ohms |
| DC Current in Primary | – | – | 0 | – | mADC |
| Turns Ratio | Primary to Secondary; ± 2% | – | 1 : 1 | – | – |

# STB/FAX/MODEM TRANSFORMERS

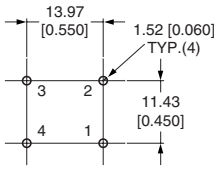


## MIT-6101/MIT-6225 style

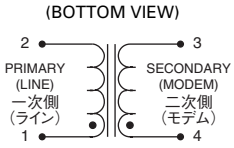
● DIMENSIONS(mm)




● TERMINAL LAYOUT




● SCHEMATICS

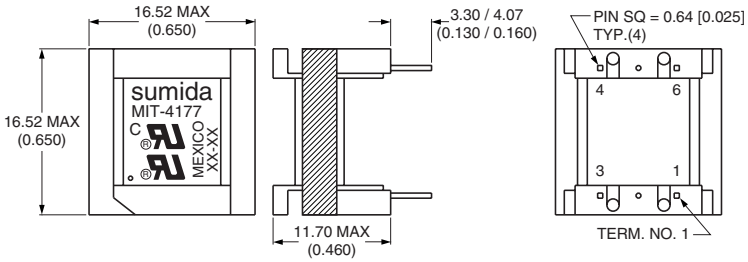



● SPECIFICATIONS

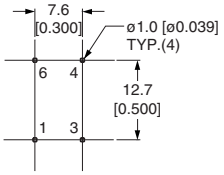
| Part No. | Speed | Impedance(Ω) PRI:SEC | THD@600Hz (dB) | IL (dB) | RL (dB) | LL (mH) | D.C.R (Ω) PRI:SEC | DC Current PRI (mA DC) |
|---|---|---|---|---|---|---|---|---|
| MIT-6101 | V.32 | 600:260 | - 60.0 | 3.5 | 8.0 | 19.0 | 170/170 | 50(Typ) |
| MIT-6225 | V.34 | 600:260 | - 79.0 | 3.3 | 10.0 | 19.0 | 170/170 | 50(Typ) |

## MIT-4177 style

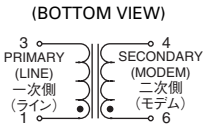
● DIMENSIONS(mm)




● TERMINAL LAYOUT




● SCHEMATICS



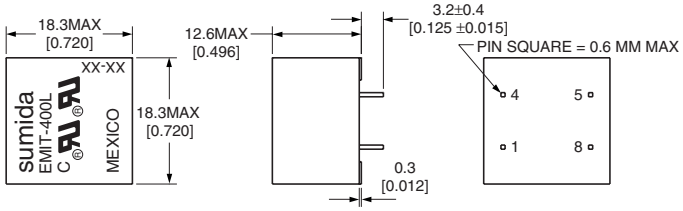

● SPECIFICATIONS

| Part No. | Speed | Impedance(Ω) PRI:SEC | THD@600Hz (dB) | IL (dB) | RL (dB) | LL (mH) | DCR (Ω) PRI:SEC |
|---|---|---|---|---|---|---|---|
| MIT-4177 | V.92/V.90 | 600:301 | - 95.0 | 3.0 | 18.0 | 7.8 | 135/135 |
| MIT-3177 | V.92/V.90 | 600:301 | - 92.0 | 2.6 | 20.0 | 3.3 | 150/150 |

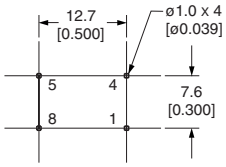
# STB/FAX/MODEM TRANSFORMERS

## MT1812B

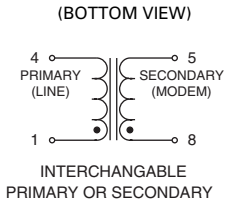
● DIMENSIONS (mm)




● TERMINAL LAYOUT



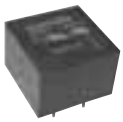

● SCHEMATICS




● SPECIFICATIONS

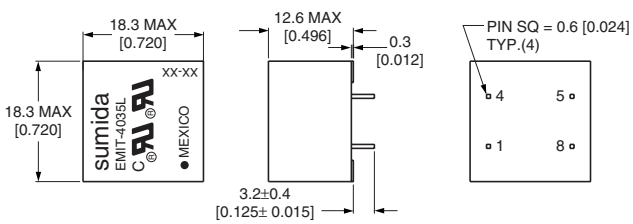
| Part No. | Speed | Impedance (Ω) PRI:SEC | THD@600Hz (dB) | IL (dB) | RL (dB) | LL (mH) | D.C.R (Ω) PRI:SEC |
|---|---|---|---|---|---|---|---|
| EMIT-2001L | V.92/V.90 | 600:560 | - 93.0 | 1.2 | 18.0 | 16.0 | 67/67 |
| EMIT-2050L | V.92/V.90 | 600:560 | - 87.0 | 1.55 | 17.0 | 17.0 | 70/70 |
| EMIT-200L | V.34 | 600:560 | - 85.0 | 1.6 | 17.5 | 17.0 | 70/70 |
| EMIT-1250L | V.34 | 600:560 | - 84.0 | 1.2 | 18.0 | 15.7 | 67/67 |
| EMIT-200L | V.32bis | 600:560 | - 74.0 | 1.5 | 14.0 | 12.1 | 67/67 |
| EMIT-400L | V.32bis | 600:600 | - 62.0 | 1.8 | 14.0 | 15.0 | 70/70 |

## MT1812

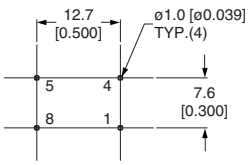


◆FEATURES
- Internationally Safety Approved for Reinforced Isolation
- EN 60950/BABT/TÜV
- V.92 (56kbps) to V.32 bis (14.4kbps) encapsulated THT fax/modem transformer

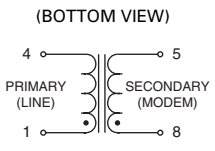
● DIMENSIONS (mm)




● TERMINAL LAYOUT




● SCHEMATICS




● SPECIFICATIONS

| Part No. | Speed | Impedance (Ω) PRI:SEC | THD@600Hz (dB) | IL (dB) | RL (dB) | LL (mH) | D.C.R (Ω) PRI:SEC |
|---|---|---|---|---|---|---|---|
| EMIT-4035L | V.92/V.90 | 600:420 | - 92.0 | 1.55 | 22.0 | 2.7 | 82/106 |
| EMIT-4031L | V.32 | 600:600 | - 73.0 | 1.1 | 18.0 | 1.1 | 55/62 |

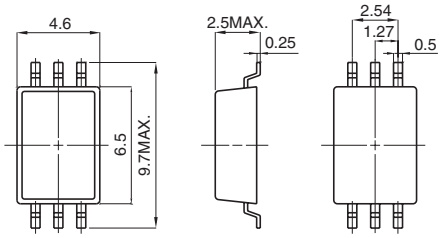
# LAN PULSE TRANSFORMERS

## ■ OUTLINE

This is very low profile SMD pulse transformer.
This is used whether pulse transformer or common mode choke coil.

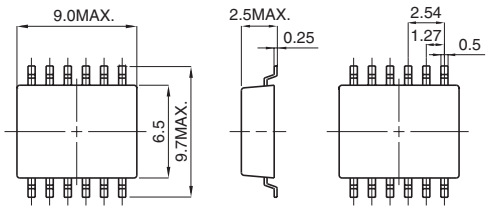
## CLP42

● DIMENSIONS (mm)




## CLP82

● DIMENSIONS (mm)




## ● SPECIFICATIONS

| Part No. | Turns ratio (±5%) | | Inductance (μH) | Leakage inductance Max.(μH) | Line capacitance Max. (pF) | D. C. R Max. (Ω) | ET-product Min. (μSec・V) |
|---|---|---|---|---|---|---|---|
| CLP42-500 | 1 : 1 | | 50 | 0.3 | 6.0 | 0.25 | 0.8 |
| CLP42-750 | 1 : 1 | | 75 | 0.35 | 8.0 | 0.3 | 1.0 |
| CLP42-101 | 1 : 1 | | 100 | 0.3 | 9.0 | 0.3 | 1.1 |
| CLP42-151 | 1 : 1 | | 150 | 0.3 | 10.0 | 0.3 | 1.3 |
| CLP42-201 | 1 : 1 | | 200 | 0.3 | 10.0 | 0.3 | 1.5 |
| CLP82-401 | TX:RX | 1CT:1CT | 400 | 0.25 | 10.0 | 0.7 | 1.2 |

## ◆SPECIFICATIONS

These are very low profile SMD pulse transformers used in PCMCIA cards.
CLP42 : Built in either one pulse transformer or one common-mode choke coil.
CLP82 : Built in either two or three pulse transformers or two or three common-mode choke coils.

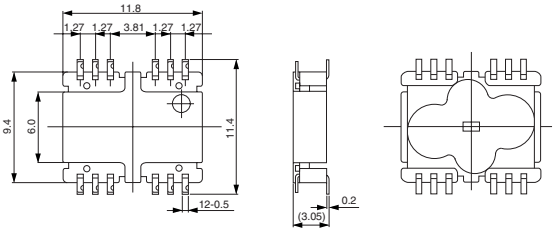
# 10/100 BASE PULSE TRANSFORMERS

## ■ OUTLINE

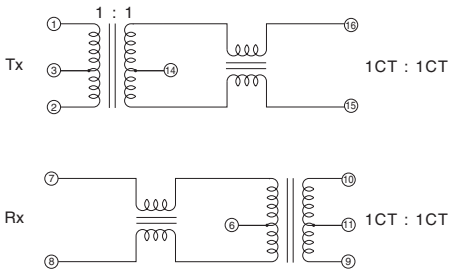
This is a pulse transformer + filter module for LAN 10/100Base-T (IEEE802.3).

## CLP11D30

● DIMENSIONS(mm)



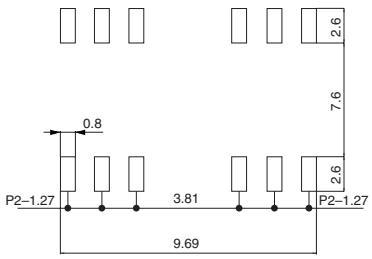

● SCHEMATICS




● ELECTRICAL SPECIFICATIONS

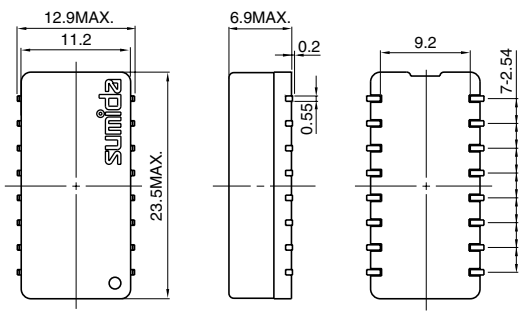
| | |
|---|---|
| Operating frequency | f=0.1~100MHz |
| Inductance | 350μH or more (f=100kHz, 0.5V) |
| Insertion Loss | 1.0dB below (f=0.1=100MHz) |
| Return Loss | 16dB or more (f=30MHz) |
| Differential to common mode rejection | 40dB or more (f=30MHz) |
| Crosstalk | 40dB or more (f=30MHz) |
| Voltage Isolation | AC1650V 6sec. |

● LAND PATTERNS(mm)

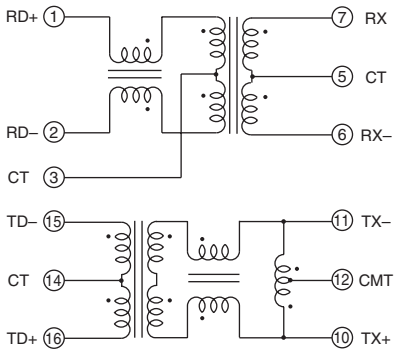



## CLP236

● DIMENSIONS(mm)




● SCHEMATICS




● ELECTRICAL SPECIFICATIONS

| | | RX | TX |
|---|---|---|---|
| Insertion Loss | (0.1~100MHz) | 1.0dB Max. | 1.0dB Max. |
| Return Loss | (0.1~60MHz) | 19dB typ. | 18dB typ. |
| | (60~100MHz) | 14dB typ. | 14dB typ. |
| Differential to common mode rejection ratio | (0.1~60MHz) | 43dB Min. | 43dB Min. |
| | (60~100MHz) | 40dB Min. | 40dB Min. |
| Inductance | (100KHZ) | 350μH Min. | |
| Voltage Isolation | | 1500 Vrms Min. For 1 Minute | |

| Part No. | Turns Ratio | |
|---|---|---|
| | RX | TX |
| SD68515 | 1CT : 1CT | 1CT : 1CT |
| SD68517 | 1CT : 1CT | 1CT : 1CT |
| SD49783 | 1CT : 1CT | 1.4CT : 1CT |
| SD1013 | 1CT : 1CT | 1.4CT : 1CT |
| SD49743 | 1CT : 1CT | 2CT : 1CT |

This filter module is used in LAN 10/100 BASE–T (IEEE802.3) of Personal Computer cards.

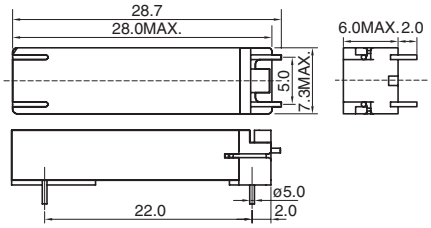
# RADIO CONTROL CLOCK ANTENNAS

## ■ OUTLINE

It is the radio controlled clock antenna with capacitor which is already preset for resonant frequency.

## ACL27

● DIMENSIONS (mm)

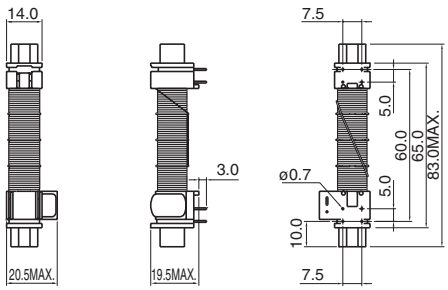



● SPECIFICATIONS

| Part No. | Tuning Frequency | Tuning Impedance | Sensitivity | | |
|---|---|---|---|---|---|
| | | | (60dBμV/m) | (50dBμV/m) | (40dBμV/m) |
| ACL27-40 | 40.0±0.20kHz within | Min. 80kΩ | 8.91μV (output volt) | 2.64μV | 0.89μV |
| ACL27-60 | 60.0±0.20kHz within | Min. 65kΩ | 11.03μV | 3.26μV | 1.10μV |

## ACL80A/B

● DIMENSIONS (mm)

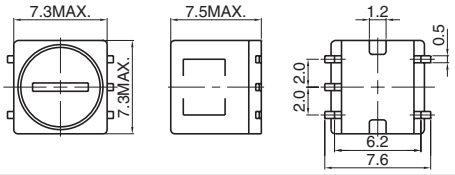
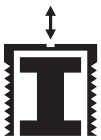
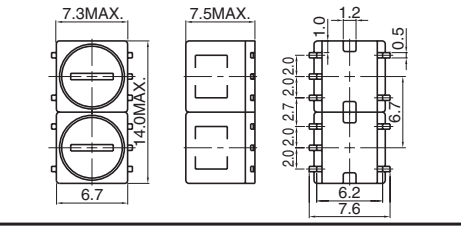
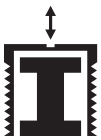
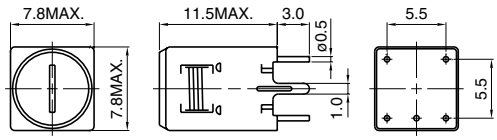



● SPECIFICATIONS

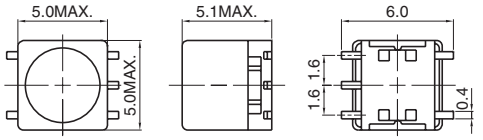
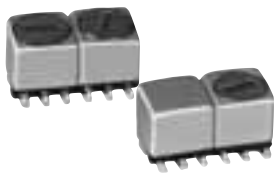
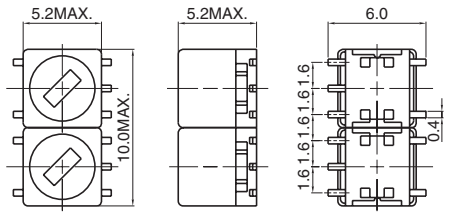
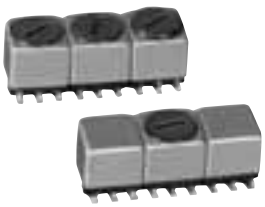
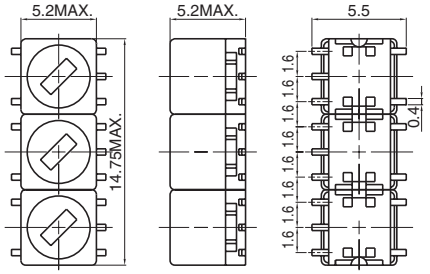
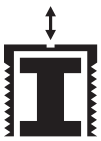
| Part No. | Spec. No. | Inductance | Resonant Capacitor | Resonant Frequency | Suitable IC |
|---|---|---|---|---|---|
| 40K08S | S-074-094 | 588μH | 27000pF | 40kHz, 60kHz | LA1650 |

Resonant frequencies (40kHz, 60kHz) are preset by suitable inductance and capacitors

## AUDIO FILTERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CFB-6**  |   |  | 1. By combining 1 to 2 pieces, various kinds of LC filter combinations are possible. ※CFB-6,CFB2-6<br>2. Low profile type (7.5 mm Max.) ※CFB-6,CFB2-6<br>3. Two capacitors are able to be built in 1coil, therefore an additional capacitor is unnecessary.<br>4. Surface mounting on PCB and reflow solding is possible ※CFB-6,CFB2-6 |
| **CFB2-6**  |   |  | |
| **FB-7DG**  |   |  | |

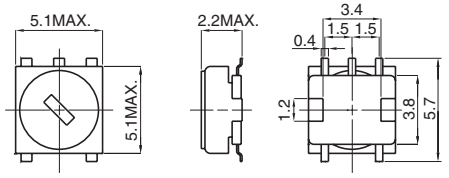
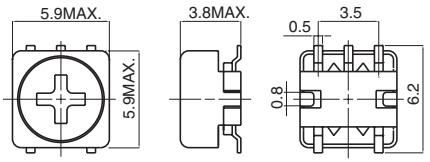
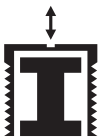
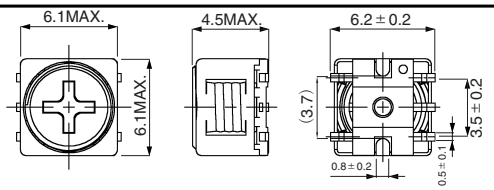
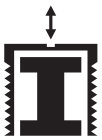
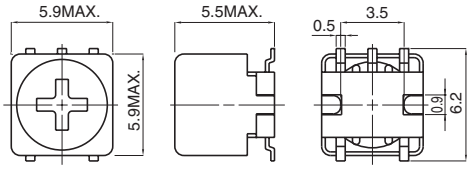
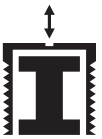
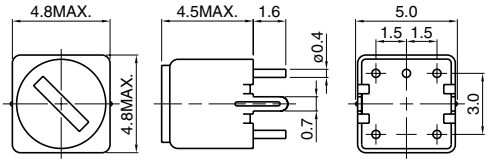
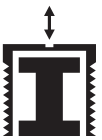
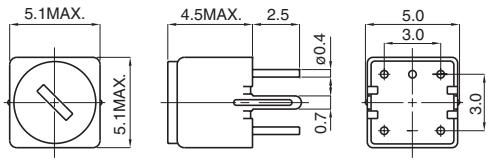
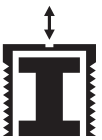
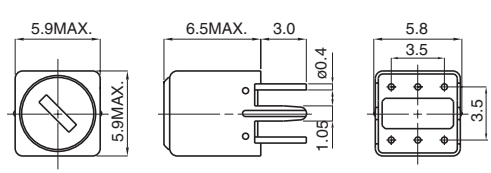
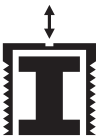
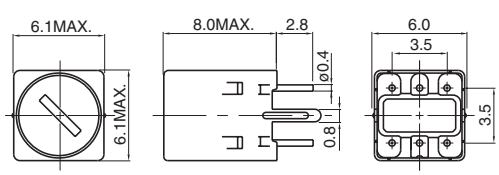
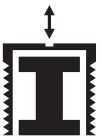
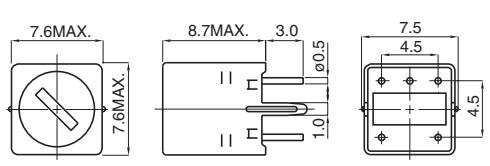
## VIDEO FILTERS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CY-4**  |   |  | 1. Filter with shield case<br>2. From 1 to 3 pieces combinations are possible for low pass, high pass, band pass and delay lines<br>3. Low profile (H: 5.2MAX mm)<br>4. Two capasitors are able to be built in 1 coil.<br>5. Reflow soldering is possible. |
| **CY-4W**  |   |  | |
| **CY-4T**  |   |  | |

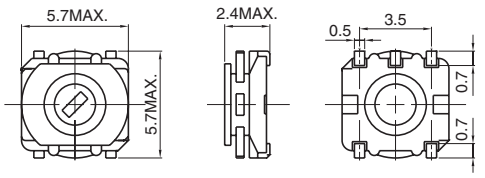
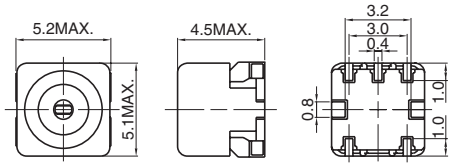
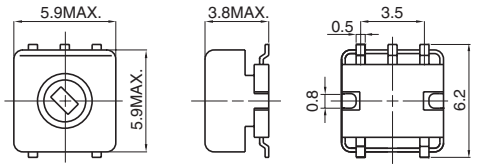
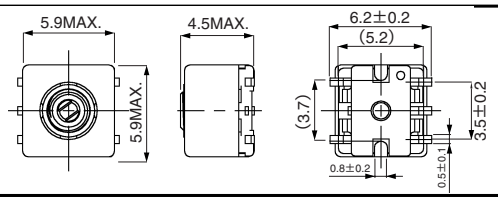
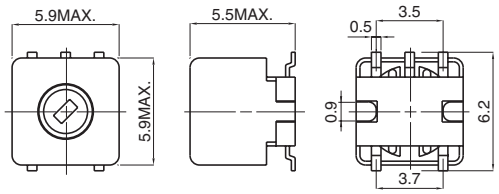
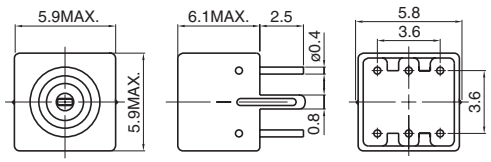
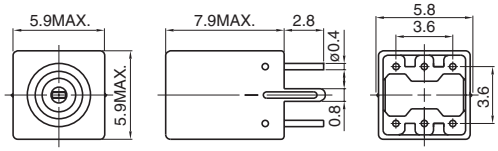
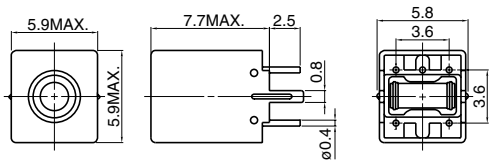
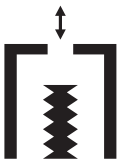
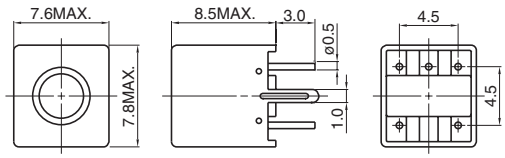
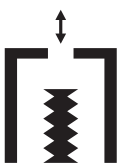
● SPECIFICATIONS

| Parts No. | Application | Type | Impedance Rin : Rout | Electric characteristics | | |
|---|---|---|---|---|---|---|
| | | | | Cut-off Freq | Delay time | Attenuation |
| 2567–021 | 1.5MHz L. P. F. | CY–4 | 1kΩ : 1kΩ | 1.5MHz (at 3.0dB) | 320nS at 1.0MHz | Min. 23dB (at 3.0 MHz) Min. 40dB (at 5.0 MHz) |
| 2569–T033 | 3.81MHz L. P. F. | CY–4W | 1kΩ : 1kΩ | 3.81MHz (at 3.0dB) | 140nS at 3.0MHz | Min. 25dB (at 4.8 MHz) Min. 35dB (at 9.5 MHz) |
| 2569–T021 | 10MHz L. P. F. | CY–4W | 1kΩ : 1kΩ | 10MHz (at 2.5dB) | 32nS at 0.2MHz | Min. 45dB (at 12.2 MHz) Min. 51dB (at 14.3 MHz) |
| 2567–026 | 5.06MHz B. P. F. | CY–4 | 1kΩ : 1kΩ | 4.85MHz (at 3.0dB) 5.25MHz (at 3.0dB) | — | Min. 20dB (at 3.8 MHz) Min. 17dB (at 6.3 MHz) |
| 2567–034 | 4.21MHz B. P. F. | CY–4 | 1kΩ : 1kΩ | 4.01MHz (at 2.5dB) 4.41MHz (at 2.5dB) | — | Min. 25dB (at 2.94MHz) Min. 17dB (at 5.47MHz) |
| 2570–T007 | 10.7MHz B. P. F. | CY–4T | 330Ω : 330Ω | 10.2MHz (at 2.5dB) 11.2MHz (at 2.5dB) | 720nS at 10.7MHz | Min. 15dB (at 9.7MHz) |
| 2569–T017 | 3.58MHz B. P. F. | CY–4W | 1kΩ : 1kΩ | 2.46MHz (at 3.0dB) 4.7MHz (at 3.0dB) | 187nS at 3.58MHz | Min. 15dB (at 1.0MHz) Min. 17dB (at 7.0MHz) |

## IFT

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CP-4LB**  |   |  | Inductance : Max. 246μH<br>Operation Freq. : Max. 15MHz<br>Variable range of L : L±1.5% |
| **CP53**  |   |  | Inductance : Max. 800μH<br>Operation Freq. : Max. 15MHz<br>Variable range of L : L±2% |
| **CP54**  |   |  | Inductance : Max. 1mH<br>Operation Freq. : Max. 20MHz<br>Variable range of L : L±3% |
| **CP55**  |   |  | Inductance : Max. 1mH<br>Operation Freq. : Max. 15MHz<br>Variable range of L : L±3% |
| **P-4SC**  |   |  | Inductance : Max. 680μH<br>Operation Freq. : Max. 25MHz<br>Variable range of L : L±3% |
| **P-4SB**  |   |  | Inductance : Max. 680μH<br>Operation Freq. : Max. 25MHz<br>Variable range of L : L±3% |
| **P-5DJ**  |   |  | Inductance : 1μH – 680μH<br>Operation Freq. : Max. 20MHz<br>Variable range of f & L : f±2%, L±4%<br>Internal capacitors : Max. 470pF<br>Good reliability characteristic<br>Hi Q type |
| **PG57**  |   |  | Inductance : 1μH – 820μH<br>Operation Freq. : Max. 20MHz<br>Variable range of f & L : f±2%, L±4%<br>Internal capacitors : Max. 470pF |
| **PG78**  |   |  | Inductance : 1μH – 820μH<br>Operation Freq. : Max. 20MHz<br>Variable range of f & L : f±2%, L±4%<br>Internal capacitors : Max. 430pF |

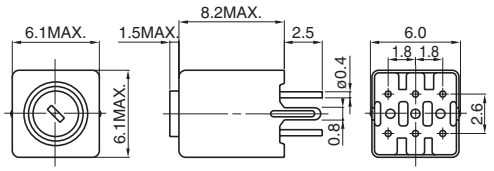
## RF COILS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CS-5LN**  |   |  | Inductance : Max. 1.5μH<br>Operation freq. : Max. 150MHz<br>Variable range of L : L±1% |
| **CS-4**  |   |  | Inductance : Max. 1.0μH<br>Operation freq. : Max. 300MHz<br>Variable range of L : L±2% |
| **CS53**  |   |  | Inductance : Max. 5μH<br>Operation freq. : Max. 150MHz<br>Variable range of L : L±1% |
| **CS54**  |   |  | Inductance : Max. 5μH<br>Operation freq. : Max. 150MHz<br>Variable range of L : L±1% |
| **CS55**  |   |  | Inductance : Max. 5μH<br>Operation freq. : Max. 150MHz<br>Variable range of f : f±1%<br>Internal capacitors : Max. 100pF |
| **S-5LE**  |   |  | Inductance : 0.1μH – 1.0μH<br>Operation freq. : Max. 300MHz<br>Variable range of L : L±4% |
| **S-5LF**  |   |  | Inductance : Max. 1.0μH<br>Operation freq. : Max. 300MHz<br>Variable range of f & L : f±2%, L±4%<br>Internal capacitors : Max. 56pF |
| **S-5CL3**  |   |  | Inductance : Max. 30μH<br>Operation freq. : Max. 300MHz<br>Variable range of f & L : f±2%, L±4%<br>Internal capacitors : Max. 56pF |
| **S-7LC**  |   |  | Inductance : 0.1μH – 10μH<br>Operation freq. : Max. 300MHz<br>Variable range of f & L : f±2%, L±4%<br>Internal capacitors : Max. 100pF |

## QUADRATURE DETECTOR COILS

### QU57

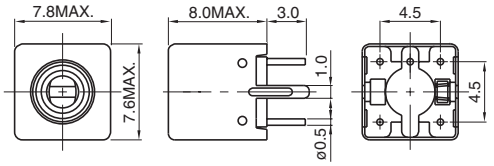
● DIMENSIONS (mm)




● SPECIFICATIONS
Inductance : 0.1μH – 25μH
Operation freq. : Max. 15MHz
Variable range of f : f±1%
Internal capacitors : Max. 100pF
Low temperature coefficient

### QU-7L

● DIMENSIONS (mm)

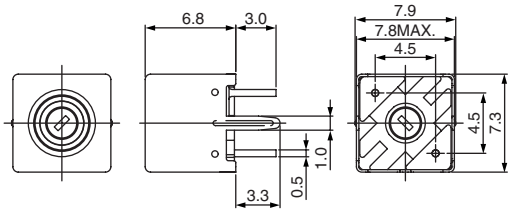



● SPECIFICATIONS
Inductance : 0.1μH – 25μH
Operation freq. : Max. 30MHz
Variable range of f : f±1%
Internal capacitors : Max. 100pF
High Stability
Low temperature coefficient

## VCO COIL

### SM76

● DIMENSIONS (mm)




● SPECIFICATIONS (REFERENCE)

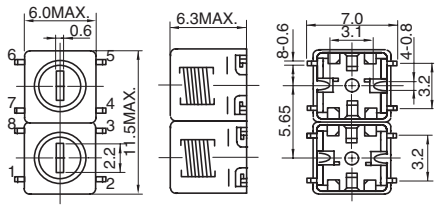
| | |
|---|---|
| Tuning Capacitance Range (1-2) | 10.5pF±2% over variable (at 200MHz) |
| Unloaded Q | 147 (at 200MHz) |

Maximum Turn : 3 ½ T(ø0.5)

## HELICAL FILTER

### CH56W

● DIMENSIONS (mm)



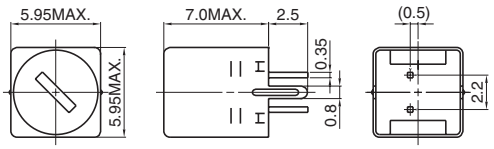

● SPECIFICATIONS

| | |
|---|---|
| Center Frequency (F0) | 480MHz |
| −1dB Bandwidth at F0 | Min.18MHz |
| Attenuation F0+80MHz | Min.25dB |
| Attenuation F0−80MHz | Min.19dB |
| Insertion Loss | Max.3.5dB |
| Ripple in Passband | Max.1dB |

## ANTENNA LOADING COIL

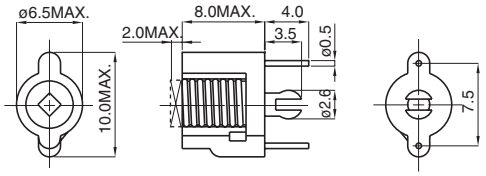
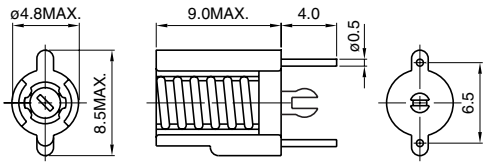
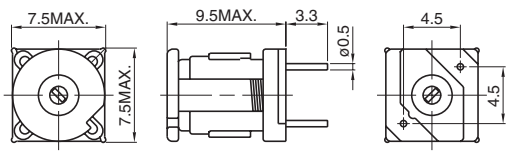
### MG56

● DIMENSIONS (mm)

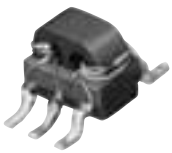
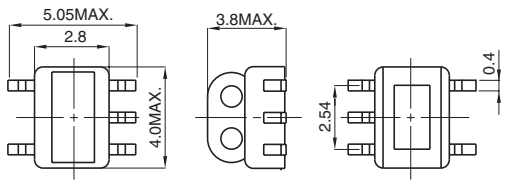
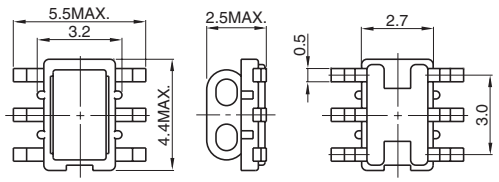
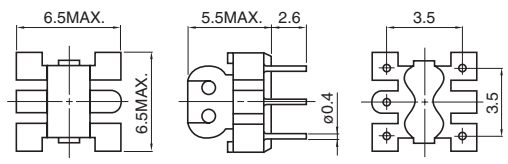
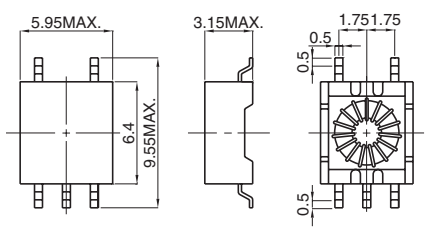



● SPECIFICATIONS
High inductance type used in LW band with high sensitivity

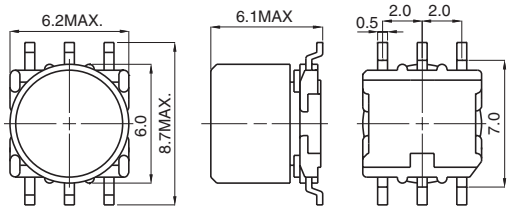
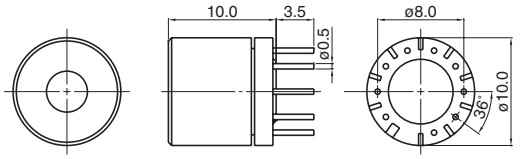
## MOLD COILS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **FEM-10BL**  |   |  | Inductance : 0.05μH – 0.1μH<br>Operation Freq. : Max. 200MHz<br>Variable range of L : L±3% |
| **FEM-85B**  |   |  | Inductance : 0.05μH – 0.13μH<br>Operation Freq. : Max. 200MHz<br>Variable range of L : L±3% |
| **FEM-7BLN**  |   |  | Inductance : 0.05μH – 0.1μH<br>Operation Freq. : Max. 200MHz<br>Variable range of L : L±3% |

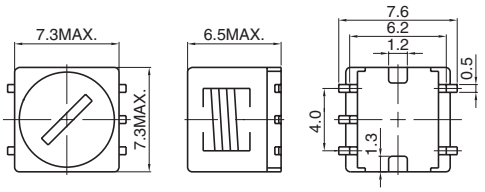
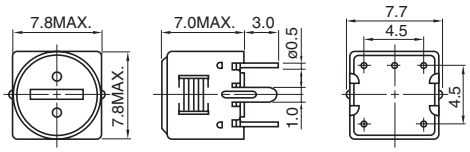
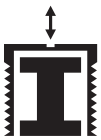
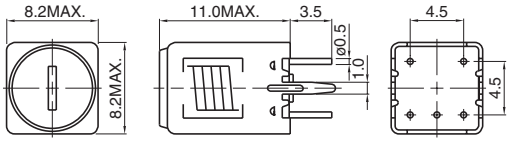
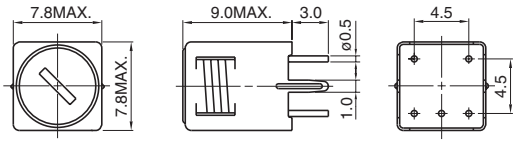
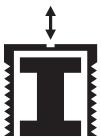
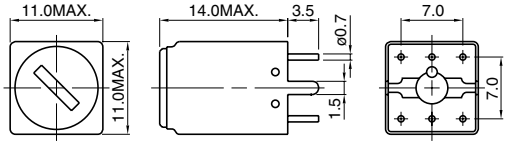
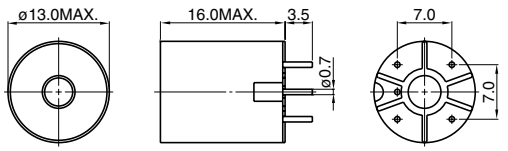
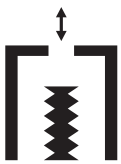
## BALUN

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CBM33**  |   |  | Operation Freq. : 50MHz – 1GHz |
| **CBM42**  |   |  | Operation Freq. : 100kHz – 1GHz |
| **BM-6N**  |   |  | Operation Freq. : Max. 500MHz |
| **CBM63**  |   |  | Operation Freq. : 100kHz – 1GHz |

## FIXED INDUCTORS FOR TAPE RECORDER

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CMS65**  |   |  | Inductance : Max. 10mH<br>Operation Freq. : Max. 500kHz<br>Max. operation power : 300mW(100kHz)<br>610mW(200kHz)<br>910mW(300kHz) |
| **MC-102**  |   |  | Inductance : Max. 80mH<br>Operation Freq. : Max. 400kHz |

## VARIABLE INDUCTORS

| TYPE | DIMENSIONS(mm) | CONSTRUCTION | SPECIFICATIONS |
|---|---|---|---|
| **CMG65**  |   |  | Inductance : Max. 27mH<br>Operation freq. : 10 – 250kHz<br>Variable range of L : L±10% |
| **M-7GLB**  |   |  | Inductance : Max. 4.5mH<br>Operation freq. : Max. 250kHz<br>Variable range of L : L±5% |
| **M-8G**  |   |  | Inductance : Max. 27mH<br>Operation freq. : Max. 500kHz<br>Variable range of L : L±8% |
| **MG78**  |   |  | Inductance : Max. 100mH<br>Operation freq. : Max. 500kHz<br>Variable range of L : L±5% |
| **M-10B**  |   |  | Inductance : Max. 20mH<br>Operation freq. : Max. 500kHz<br>Variable range of L : L±10% |
| **MC-129J**  |   |  | Inductance : Max. 82mH<br>Operation freq. : Max. 250kHz<br>Variable range of L : L±10% |

# Sparctube™ - SWITCHING SPARK GAPS

NEW PRODUCTS

## ■ OUTLINE

*Sparctube*™ is a range of switching spark gaps designed specifically for voltage controlled switching of capacitive discharge circuits, where a high energy, low loss, and a fast rate of switching is required. Ideally suited to applications where a capacitive discharge is utilised with a transformer to obtain pulses of very high voltage levels in the order of several thousand volts.

## ■ APPLICATIONS／適用

- Igniters for Architectural and Automotive Xenon discharge lamps
- Ignition of Ultra High Pressure Gas Discharge Lamps for Data and Video Projectors
- Electronic Igniters for Gas Heating and Gas Domestic Appliances, e.g. Cookers
- Ignition Control for Plasma Discharge Welders

## ■ TYPICAL DATA

- Product Voltage Range ·····220 - 2000V
- Switching Time·····< 50ns
- Switching Current ·····< 1000A
- Energy Per Discharge ·····< 200mJ
- Service Life (operations) ·····> 200,000*
- Arc Voltage ·····10 - 100V

## ■ FEATURES／特徴

- Fast Switching Rate
- High Energy Low Loss Capability
- Wide Operating Temperature Range
- Excellent Service Life
- High Insulation Resistance
- Small Size
- Rugged Ceramic Metal Construction
- Non Radioactive

## ● SPECIFICATIONS

| Product Code | Switching Voltage | Switching Frequency | Insulation Resistance | Capacitance | Operating Temperature |
|---|---|---|---|---|---|
| ST 0220 | 220V | <400Hz | >100 M | <2 pF | -40 ~ +160 ºC |
| ST 0350 | 350V | <400Hz | >100 M | <2 pF | -40 ~ +160 ºC |
| ST 0400 | 400V | <400Hz | >100 M | <2 pF | -40 ~ +160 ºC |
| ST 0600 | 600V | <400Hz | >100 M | <2 pF | -40 ~ +160 ºC |
| ST 0800* | 800V | <400Hz | >100 M | <2 pF | -40 ~ +160 ºC |
| ST 1000 | 1000V | <400Hz | >100 M | <2 pF | -40 ~ +160 ºC |
| ST 2000 | 2000V | <400Hz | >100 M | <2 pF | -40 ~ +160 ºC |

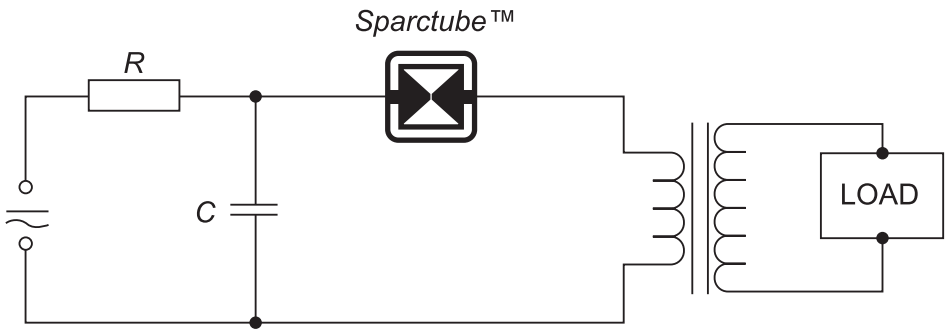
*ST 0800 is available with a service life > 1,000,000 switchings.

*Sparctube*™ is a trademark of Jensen Devices AB.

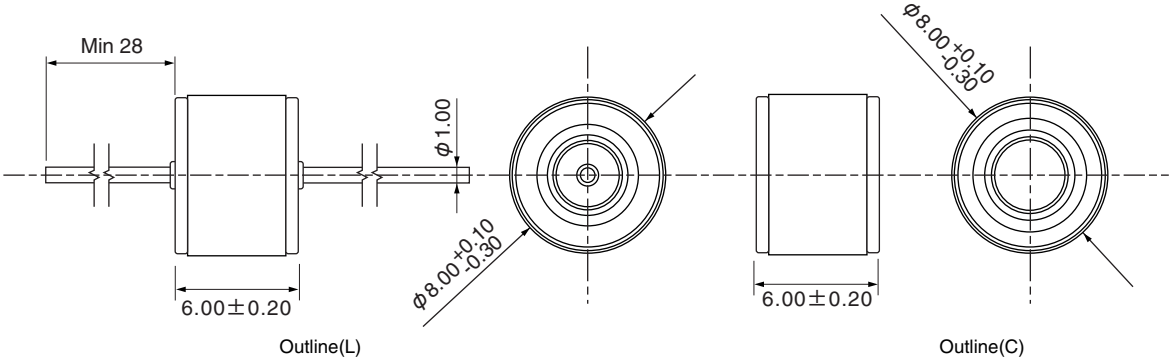
NEW PRODUCTS

# Sparctube™ - SWITCHING SPARK GAPS

## ■ BASIC APPLICATION CIRCUIT




## ■ MECHANICAL DIMENSIONS




## ■ ORDERING INFORMATION

**ST XXXXX X X - STD**

Switching Voltage

0220 = 220V
0350 = 350V
0400 = 400V
0600 = 600V
0800 = 800V
1000 = 1000V
2000 = 2000V

Tolerance
A = 15%
B = 12%

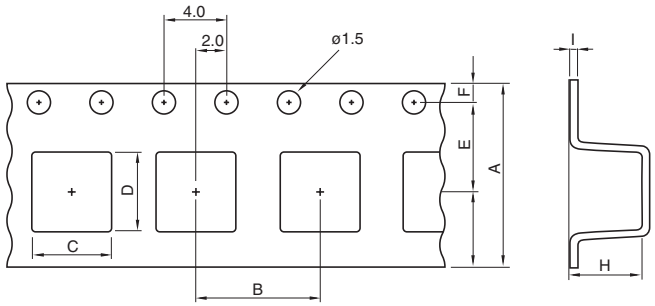
Outline Options
L = Leads
C = No Leads

Packaging
T = Tape & Reel
B = Bulk

*Sparctube*™ is a trademark of Jensen Devices AB.

# Dimensions for embossed tape and reel packing with packed QTY

Tape Dimensions (mm)




| TYPE | DIMENSION(mm) | | | | | | | | QYT (PCS/Reel) |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | H | I | |
| CAS14D26 | 24.0 | 8.0 | 5.6 | 15.0 | 11.5 | 1.75 | 3.0 | 0.4 | 2000 |
| CBM33 | 12.0 | 8.0 | 4.4 | 5.6 | 5.5 | 1.75 | 3.3 | 0.4 | 500 |
| CBM42 | 12.0 | 8.0 | 4.8 | 5.8 | 5.5 | 1.75 | 2.8 | 0.4 | 500 |
| CBM63 | 16.0 | 8.0 | 6.1 | 10.3 | 7.5 | 1.75 | 3.3 | 0.4 | 500 |
| CDBM7D28 | 16.0 | 4.0 | 5.1 | 8.1 | 7.5 | 1.75 | 3.1 | 0.4 | 2000 |
| CDC5D23 | 12.0 | 8.0 | 6.0 | 6.0 | 5.65 | 1.50 | 2.6 | 0.4 | 2000 |
| CDEP104(L.S) | 24.0 | 16.0 | 10.5 | 10.5 | 11.5 | 1.75 | 5.8 | 0.4 | 500 |
| CDEP105(L.S.H) | 24.0 | 16.0 | 10.5 | 10.5 | 11.5 | 1.75 | 5.8 | 0.4 | 500 |
| CDEP134(H) | 24.0 | 16.0 | 14.1 | 14.1 | 11.5 | 1.75 | 5.2 | 0.4 | 500 |
| CDEP149 | 24.0 | 24.0 | 15.1 | 15.1 | 11.5 | 1.75 | 10.3 | 0.4 | 250 |
| CDPH4D19F | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.75 | 2.1 | 0.4 | 1000 |
| CDR7D28MN | 16.0 | 12.0 | 7.6 | 7.6 | 7.5 | 1.75 | 3.3 | 0.4 | 1000 |
| CDRH103R | 24.0 | 16.0 | 10.4 | 10.4 | 11.5 | 1.75 | 3.1 | 0.4 | 1000 |
| CDRH104R | 24.0 | 16.0 | 10.4 | 10.4 | 11.5 | 1.75 | 4.1 | 0.4 | 1000 |
| CDRH105R | 24.0 | 16.0 | 10.4 | 10.4 | 11.5 | 1.75 | 5.1 | 0.4 | 500 |
| CDRH124 | 16.0 | 16.0 | 12.4 | 12.4 | 11.5 | 1.75 | 4.5 | 0.5 | 500 |
| CDRH125 | 24.0 | 16.0 | 12.4 | 12.4 | 11.5 | 1.75 | 6.0 | 0.5 | 500 |
| CDRH127 | 24.0 | 16.0 | 12.4 | 12.4 | 11.5 | 1.75 | 7.9 | 0.5 | 500 |
| CDRH127/LD | 24.0 | 16.0 | 10.0 | 12.4 | 11.5 | 1.75 | 7.9 | 0.5 | 500 |
| CDRH2D11 | 12.0 | 8.0 | 3.3 | 3.3 | 5.5 | 1.75 | 1.3 | 0.4 | 1500 |
| CDRH2D14 | 12.0 | 8.0 | 3.3 | 3.3 | 5.5 | 1.75 | 1.6 | 0.4 | 1000 |
| CDRH2D18/HP | 12.0 | 8.0 | 3.3 | 3.3 | 5.5 | 1.75 | 2.1 | 0.4 | 1000 |
| CDRH2D18/LD | 12.0 | 8.0 | 3.3 | 3.3 | 5.5 | 1.75 | 2.1 | 0.4 | 1000 |
| CDRH3D16 | 12.0 | 8.0 | 4.3 | 4.3 | 5.5 | 1.75 | 1.9 | 0.4 | 1000 |
| CDRH3D16/HP | 12.0 | 8.0 | 4.3 | 4.3 | 5.5 | 1.75 | 1.9 | 0.4 | 1000 |
| CDRH3D16/LD | 12.0 | 8.0 | 4.3 | 4.3 | 5.5 | 1.75 | 1.9 | 0.4 | 1000 |
| CDRH3D28 | 12.0 | 8.0 | 4.3 | 4.3 | 5.5 | 1.75 | 3.1 | 0.4 | 500 |
| CDRH3D28/LD | 12.0 | 8.0 | 4.3 | 4.3 | 5.5 | 1.75 | 3.1 | 0.4 | 500 |
| CDRH4D16F/LD | 12.0 | 8.0 | 4.6 | 4.6 | 5.5 | 1.75 | 2.05 | 0.4 | 1000 |
| CDRH4D18 | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.75 | 2.1 | 0.4 | 1000 |
| CDRH4D18C | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.75 | 2.1 | 0.4 | 1000 |
| CDRH4D18C/LD | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.75 | 2.1 | 0.4 | 1000 |
| CDRH4D22 | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.75 | 2.5 | 0.4 | 2000 |
| CDRH4D28 | 12.0 | 8.0 | 5.1 | 5.1 | 5.6 | 1.75 | 3.1 | 0.4 | 2000 |
| CDRH4D28C | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.75 | 3.1 | 0.4 | 2000 |
| CDRH4D28C/LD | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.75 | 3.1 | 0.4 | 2000 |
| CDRH5D16F/LD | 12.0 | 8.0 | 5.5 | 5.5 | 5.5 | 1.75 | 2.05 | 0.4 | 1000 |
| CDRH5D18 | 12.0 | 8.0 | 6.0 | 6.0 | 5.65 | 1.50 | 2.1 | 0.4 | 2000 |
| CDRH5D28 | 12.0 | 8.0 | 6.0 | 6.0 | 5.65 | 1.50 | 3.1 | 0.4 | 2000 |
| CDRH5D28R | 12.0 | 8.0 | 6.3 | 6.4 | 5.65 | 1.50 | 3.1 | 0.4 | 2000 |
| CDRH6D12 | 16.0 | 12.0 | 6.8 | 6.8 | 7.5 | 1.75 | 1.7 | 0.4 | 1000 |
| CDRH6D26 | 16.0 | 12.0 | 7.1 | 7.1 | 7.5 | 1.75 | 3.1 | 0.4 | 1500 |
| CDRH6D28 | 16.0 | 12.0 | 7.1 | 7.1 | 7.5 | 1.75 | 3.1 | 0.4 | 1500 |
| CDRH6D38 | 16.0 | 12.0 | 7.1 | 7.1 | 7.5 | 1.75 | 4.1 | 0.4 | 1000 |
| CDRH8D28 | 16.0 | 16.0 | 10.5 | 8.2 | 7.5 | 1.75 | 3.1 | 0.4 | 1000 |
| CDRH8D38 | 16.0 | 16.0 | 8.2 | 8.2 | 7.5 | 1.75 | 4.1 | 0.4 | 1000 |
| CDRH8D43 | 16.0 | 16.0 | 10.5 | 8.2 | 7.5 | 1.75 | 4.7 | 0.4 | 500 |
| CEE156 | 24.0 | 24.0 | 16.9 | 15.4 | 11.5 | 1.75 | 7.1 | 0.5 | 300 |
| CEE-78 | 24.0 | 16.0 | 9.0 | 9.7 | 11.5 | 1.75 | 6.1 | 0.5 | 500 |
| CEE93 | 24.0 | 16.0 | 11.0 | 12.0 | 11.5 | 1.75 | 4.6 | 0.5 | 500 |
| CEE94 | 24.0 | 16.0 | 11.0 | 12.0 | 11.5 | 1.75 | 4.6 | 0.5 | 500 |
| CEE98 | 24.0 | 16.0 | 11.0 | 12.0 | 11.5 | 1.75 | 6.1 | 0.5 | 500 |
| CEI120 | 24.0 | 16.0 | 14.0 | 15.1 | 11.5 | 1.75 | 6.1 | 0.5 | 500 |
| CEI122(H) | 24.0 | 16.0 | 12.9 | 12.9 | 11.5 | 1.75 | 3.6 | 0.4 | 1000 |
| CEI-128 | 24.0 | 16.0 | 14.0 | 15.1 | 11.5 | 1.75 | 6.1 | 0.5 | 500 |
| CEP123 | 24.0 | 16.0 | 12.9 | 12.9 | 11.5 | 1.75 | 3.6 | 0.4 | 1000 |

| TYPE 形名 | DIMENSION(mm) | | | | | | | | QYT (PCS/Reel) |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | H | I | |
| CEP125(H,U) | 24.0 | 16.0 | 13.0 | 13.0 | 11.5 | 1.75 | 5.8 | 0.4 | 500 |
| CEP12D38 | 24.0 | 16.0 | 12.9 | 12.9 | 11.5 | 1.75 | 4.1 | 0.4 | 1000 |
| CEPH199 | 44.0 | 36.0 | 26.1 | 30.6 | 20.2 | 1.75 | 10.1 | 0.4 | 100 |
| CER95 | 24.0 | 16.0 | 11.0 | 12.8 | 11.5 | 1.75 | 6.3 | 0.5 | 500 |
| CFB-6 | 16.0 | 12.0 | 7.1 | 8.2 | 7.5 | 1.75 | 7.6 | 0.5 | 500 |
| CFB2-6 | 24.0 | 12.0 | 8.2 | 13.9 | 11.5 | 1.75 | 7.6 | 0.5 | 500 |
| CLP236 | 32.00 | 16.0 | 13.4 | 23.5 | 14.2 | 1.75 | 7.0 | 0.3 | 500 |
| CLP42 | 16.00 | 8.0 | 5.2 | 9.8 | 7.5 | 1.75 | 2.6 | 0.4 | 500 |
| CLP82 | 16.0 | 12.0 | 9.2 | 9.8 | 11.5 | 1.75 | 2.6 | 0.4 | 500 |
| CLQ102 | 24.0 | 16.0 | 11.9 | 10.9 | 11.5 | 1.75 | 3.1 | 0.4 | 1000 |
| CLQ104 | 24.0 | 16.0 | 11.9 | 10.9 | 11.5 | 1.75 | 4.6 | 0.4 | 500 |
| CLQ122 | 24.0 | 20.0 | 12.4 | 14.0 | 11.5 | 1.75 | 3.1 | 0.4 | 500 |
| CLQ143 | 24.0 | 20.0 | 14.9 | 17.0 | 11.5 | 1.75 | 3.5 | 0.4 | 500 |
| CLQ4D27 | 12.0 | 8.0 | 5.0 | 5.2 | 5.5 | 1.75 | 3.3 | 0.4 | 1500 |
| CLQ52 | 12.0 | 8.0 | 6.0 | 6.4 | 5.5 | 1.75 | 2.6 | 0.4 | 1500 |
| CLQ72 | 16.0 | 12.0 | 8.0 | 7.1 | 7.5 | 1.75 | 3.1 | 0.4 | 1500 |
| CLQ72B | 16.0 | 12.0 | 7.1 | 8.0 | 7.5 | 1.75 | 3.1 | 0.4 | 1500 |
| CLQ7D27 | 16.0 | 12.0 | 8.0 | 9.9 | 7.5 | 1.75 | 3.1 | 0.4 | 1000 |
| CLS10 | 24.0 | 16.0 | 11.4 | 11.4 | 11.5 | 1.75 | 5.1 | 0.5 | 500 |
| CLS12 | 24.0 | 16.0 | 13.8 | 14.7 | 11.5 | 1.75 | 6.1 | 0.5 | 500 |
| CLS4D09 | 12.0 | 8.0 | 5.1 | 5.1 | 5.5 | 1.75 | 1.5 | 0.4 | 1000 |
| CLS4D11 | 12.0 | 8.0 | 5.1 | 5.1 | 5.5 | 1.75 | 1.5 | 0.4 | 1000 |
| CLS4D14 | 12.0 | 8.0 | 5.1 | 5.1 | 5.5 | 1.75 | 1.7 | 0.4 | 1000 |
| CLS5D11 | 12.0 | 8.0 | 6.2 | 6.2 | 5.65 | 1.5 | 1.5 | 0.4 | 1000 |
| CLS5D14 | 12.0 | 8.0 | 6.2 | 6.2 | 5.65 | 1.5 | 1.7 | 0.4 | 1000 |
| CMD4D06 | 12.0 | 8.0 | 6.0 | 7.0 | 5.5 | 1.75 | 1.5 | 0.4 | 1000 |
| CMD4D08 | 12.0 | 8.0 | 6.0 | 7.0 | 5.5 | 1.75 | 1.7 | 0.4 | 1000 |
| CMD4D11 | 12.0 | 8.0 | 4.5 | 5.9 | 5.5 | 1.75 | 1.5 | 0.4 | 1000 |
| CMD4D13 | 12.0 | 8.0 | 4.5 | 5.9 | 5.5 | 1.75 | 1.7 | 0.4 | 1000 |
| CMD5D11 | 16.0 | 8.0 | 5.9 | 7.5 | 7.5 | 1.75 | 1.5 | 0.4 | 1000 |
| CMD5D13 | 16.0 | 8.0 | 5.9 | 7.5 | 7.5 | 1.75 | 1.8 | 0.4 | 1000 |
| CMD6D11B | 16.0 | 12.0 | 7.3 | 8.0 | 7.5 | 1.75 | 1.5 | 0.4 | 2000 |
| CMG65 | 16.0 | 12.0 | 7.1 | 8.2 | 7.5 | 1.75 | 6.6 | 0.5 | 500 |
| CP-4LB | 12.0 | 8.0 | 5.2 | 6.4 | 5.5 | 1.75 | 3.3 | 0.3 | 500/2000 |
| CP53 | 12.0 | 12.0 | 7.0 | 6.0 | 5.5 | 1.75 | 4.3 | 0.4 | 1000 |
| CP55 | 12.0 | 12.0 | 7.0 | 6.0 | 5.5 | 1.75 | 6.0 | 0.4 | 750 |
| CPFC74 | 16.0 | 8.0 | 5.9 | 9.5 | 7.5 | 1.75 | 4.6 | 0.4 | 1000 |
| CPFC85 | 16.0 | 12.0 | 8.3 | 9.3 | 7.5 | 1.75 | 5.5 | 0.4 | 1000 |
| CPU9D25 | 24.0 | 16.0 | 10.4 | 14.2 | 11.5 | 1.75 | 3.2 | 0.4 | 1000 |
| CR105 | 24.0 | 12.0 | 9.5 | 10.4 | 11.5 | 1.75 | 5.9 | 0.4 | 500 |
| CR10D37 | 24.0 | 16.0 | 10.4 | 10.4 | 11.5 | 1.75 | 4.2 | 0.4 | 1000 |
| CR32 | 12.0 | 8.0 | 3.75 | 4.1 | 5.5 | 1.75 | 3.0 | 0.4 | 2000 |
| CR43 | 12.0 | 8.0 | 4.4 | 4.9 | 5.5 | 1.75 | 3.5 | 0.4 | 1500 |
| CR54 | 12.0 | 8.0 | 5.7 | 6.2 | 5.5 | 1.75 | 5.0 | 0.4 | 1500 |
| CR75 | 16.0 | 12.0 | 7.4 | 8.2 | 7.5 | 1.75 | 5.5 | 0.4 | 1000 |
| CS-4 | 12.0 | 8.0 | 5.1 | 5.1 | 5.65 | 1.50 | 4.6 | 0.4 | 500/1500 |
| CS53 | 12.0 | 12.0 | 7.0 | 6.0 | 5.5 | 1.75 | 4.3 | 0.4 | 1000 |
| CS55 | 12.0 | 12.0 | 7.0 | 6.0 | 5.5 | 1.75 | 6.0 | 0.4 | 750 |
| CS-5LN | 12.0 | 8.0 | 5.6 | 5.6 | 5.65 | 1.50 | 2.6 | 0.4 | 500/2500 |
| CY-4 | 12.0 | 8.0 | 5.5 | 6.5 | 5.5 | 1.75 | 5.3 | 0.4 | 1000 |
| CY-4T | 24.0 | 8.0 | 6.4 | 14.75 | 11.5 | 1.75 | 5.2 | 0.4 | 1000 |
| CY-4W | 24.0 | 8.0 | 6.4 | 11.1 | 11.5 | 1.75 | 5.2 | 0.4 | 1000 |

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