

COMMON MODE CHOKE CATALOG

Suited for LAN and Telecom Applications



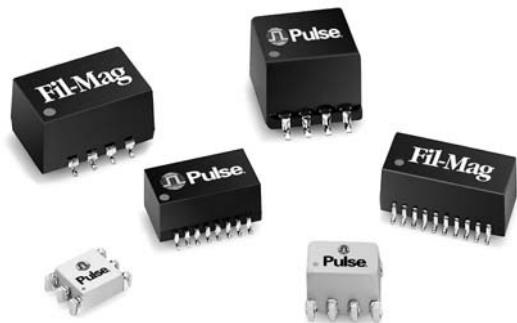
TABLE OF CONTENTS

Common Mode Chokes for Datacom Applications

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| Surface Mount Common Mode Chokes | 2-6 |
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SURFACE MOUNT COMMON MODE CHOKES

Suited for LAN and Telecom Applications



- Reduces radiated EMI emissions
- Filters common mode noise for EMI reduction
- Common mode attenuation from 100 kHz to 1 GHz
- Tape & Reel packaging available for surface mount parts*

Electrical Specifications @ 25°C

| Part Number | No. of Lines | Primary Inductance OCL (μH MIN) | Common Mode Attenuation (dB TYP) | | | | | | | | | | DCR (Ω MAX) | Page Number of Mech. & Schem. |
|-------------|--------------|---------------------------------|----------------------------------|-------|--------|--------|--------|---------|---------|---------|-------|------|-------------|-------------------------------|
| | | | 100 KHz | 1 MHz | 10 MHz | 30 MHz | 50 MHz | 100 MHz | 300 MHz | 500 MHz | 1 GHz | | | |
| PE-68624 | 2 | 47 | 11 | 27 | 40 | 44 | 42 | 36 | 26 | 17 | — | 0.40 | 2 | |
| PE-65855 | 2 | 4700 | 41 | 43 | 49 | 39 | 34 | 26 | 20 | 20 | 12 | 1.0 | 4 | |
| B2013 | 2 | 6300 | 46 | 47 | 43 | 32 | 25 | 29 | 21 | 14 | 16 | 1.0 | 3 | |
| B4003 | 2 | 4700 | 42 | 41 | 48 | 38 | 33 | 21 | 22 | 23 | 17 | 1.0 | 6 | |
| 23Z87SM | 3 | 69 | 9 | 24 | 31 | 30 | 29 | 27 | 21 | 16 | — | 0.20 | 4 | |
| PE-65857 | 4 | 22.5 | 7 | 20 | 30 | 37 | 38 | 34 | 24 | 13 | — | 0.22 | 4 | |
| PE-68627 | 4 | 24 | 8 | 21 | 32 | 36 | 37 | 36 | 30 | 20 | — | 0.25 | 4 | |
| T8003 | 4 | 33 | 9 | 13 | 32 | 32 | 30 | 27 | 16 | 17 | 13 | 0.20 | 6 | |
| 23Z4000SMD | 4 | 36 | 7 | 23 | 35 | 38 | 38 | 36 | 29 | 24 | — | 0.50 | 5 | |
| PE-65854 | 4 | 47 | 3 | 19 | 32 | 36 | 35 | 29 | 12 | 6 | — | 0.40 | 3 | |
| 23Z104SM | 4 | 68 | 8 | 22 | 28 | 28 | 27 | 25 | 20 | 15 | — | 0.20 | 5 | |
| PE-67540 | 4 | 100 | 14 | 33 | 44 | 48 | 49 | 44 | 34 | 29 | 20 | 0.60 | 4 | |
| PE-65853 | 4 | 4700 | 40 | 51 | 38 | 30 | 25 | 20 | 14 | 13 | — | 1.20 | 3 | |
| PE-68602 | 6 | 21 | 6 | 19 | 28 | 34 | 35 | 36 | 34 | 29 | 1 | 0.35 | 3 | |
| 23Z106SM | 6 | 68 | 8 | 22 | 29 | 30 | 30 | 29 | 24 | 19 | — | 0.20 | 5 | |
| PE-69011 | 8 | 36 | 8 | 24 | 36 | 39 | 35 | 29 | 18 | 11 | — | 0.35 | 3 | |
| 23Z105SM | 8 | 68 | 8 | 24 | 30 | 29 | 27 | 24 | 16 | 11 | — | 0.20 | 5 | |
| 23Z109SM | 10 | 7.5 | 4 | 9 | 20 | 25 | 26 | 24 | 16 | 11 | — | 0.20 | 5 | |
| T8008 | 16 | 47 | 7 | 27 | 40 | 44 | 42 | 36 | 26 | — | — | 0.40 | 6 | |

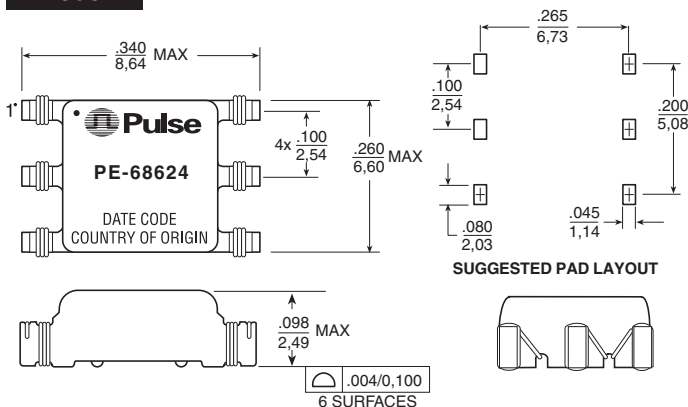
* When ordering Tape & Reel packaging, add a "T" at the end of the part number (i.e. PE-65738T or 23Z106SMT).

NOTE: Additional common mode chokes are available. Please contact Applications Engineering.

Mechanicals

Schematics

PE-68624



PE-68624



Weight0.17 grams
Tape & Reel1500/reel
Tube85/tube

SURFACE MOUNT COMMON MODE CHOKES

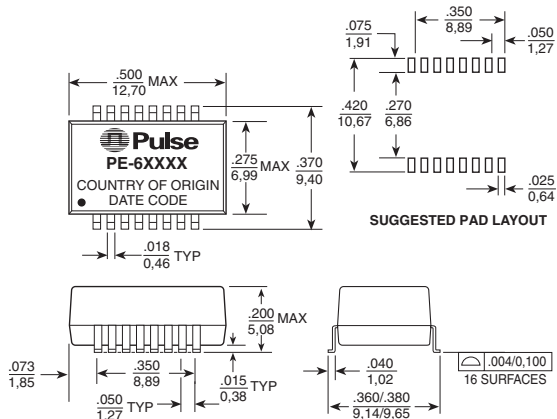
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Mechanicals

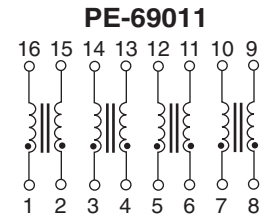
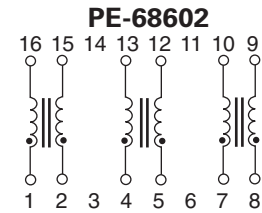
Schematics

PE-68602, PE-69011

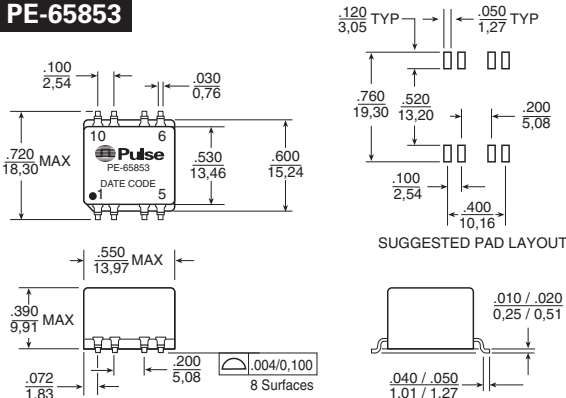


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight0.83 grams
Tape & Reel900/reel
Tube40/tube



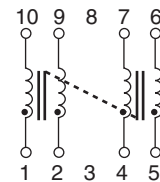
PE-65853



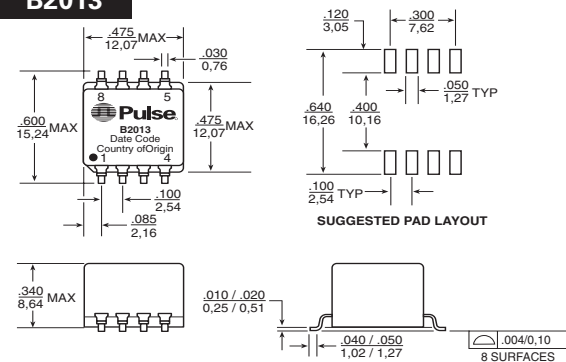
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight4.0 grams
Tape & Reel150/reel
Tube35/tube

PE-65853



B2013



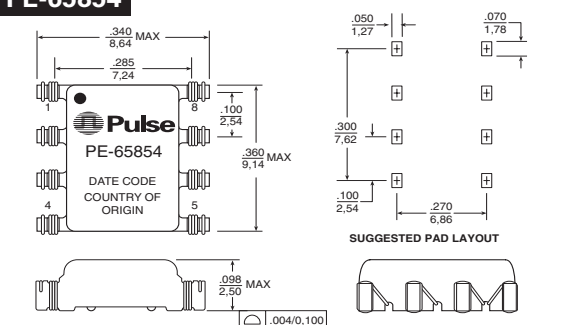
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Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight9.5 grams
Tray30/tray

B2013



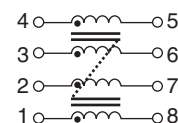
PE-65854



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight0.3 grams
Tape & Reel1500/reel
Tube60/tube

PE-65854



USA 858 674 8100 • Germany 49 7032 7806 0 • Singapore 65 6287 8998 • Shanghai 86 21 32181071 • China 86 755 33966678 • Taiwan 886 3 4643715

SURFACE MOUNT COMMON MODE CHOKES

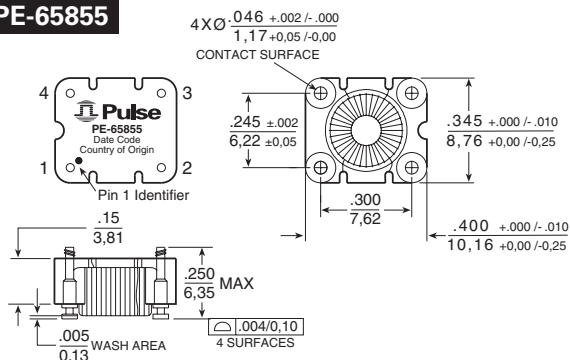
Suited for LAN and Telecom Applications



Mechanicals

Schematics

PE-65855



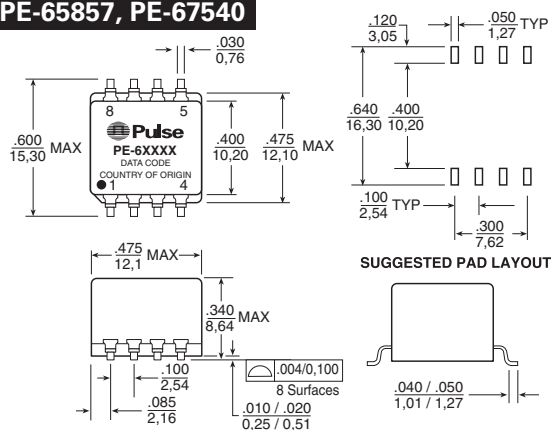
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 0.69 grams
Tape & Reel 800/reel
Tube 40/tube

PE-65855



PE-65857, PE-67540

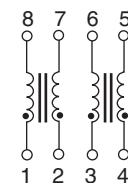
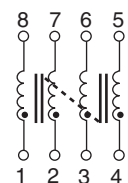


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

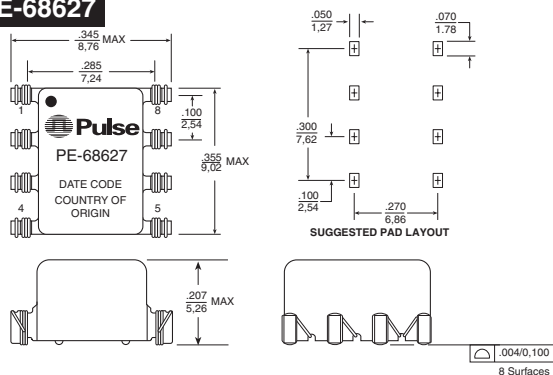
Weight 2.0 grams
Tape & Reel 250/reel
Tube 40/tube

PE-65857

PE-67540



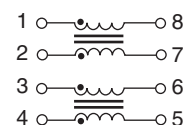
PE-68627



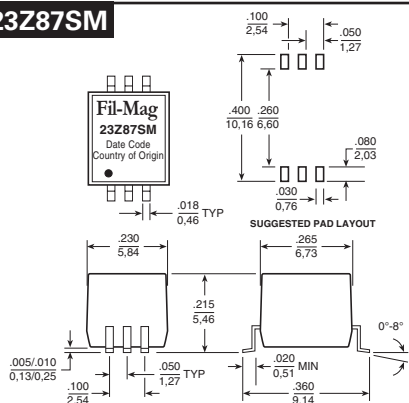
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 0.3 grams
Tape & Reel 1500/reel
Tube 55/tube

PE-68627



23Z87SM



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,13}$

Weight 0.5 grams
Tape & Reel 750/reel
Tube 100/tube

23Z87SM



SURFACE MOUNT COMMON MODE CHOKES

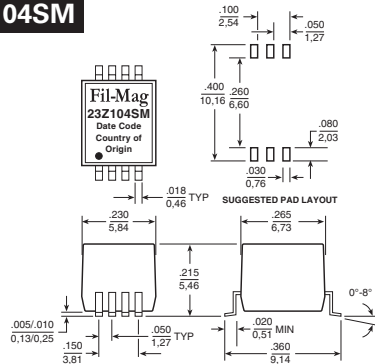
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Mechanicals

Schematics

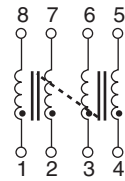
23Z104SM



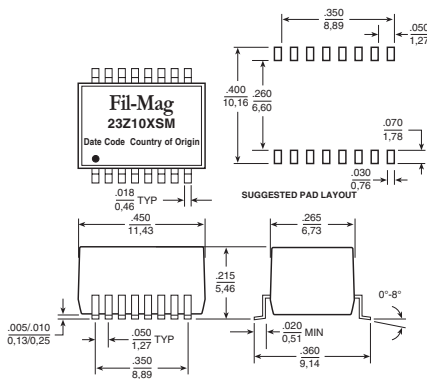
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

Weight 0.5 grams
Tape & Reel750/reel
Tube 100/tube

23Z104SM



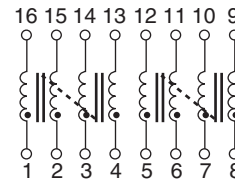
23Z105SM, 23Z106SM



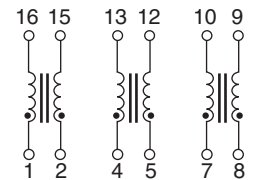
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

23Z105SM **23Z106SM**
Weight 0.8 grams 1.0 grams
Tape & Reel750/reel750/reel
Tube50/tube50/tube

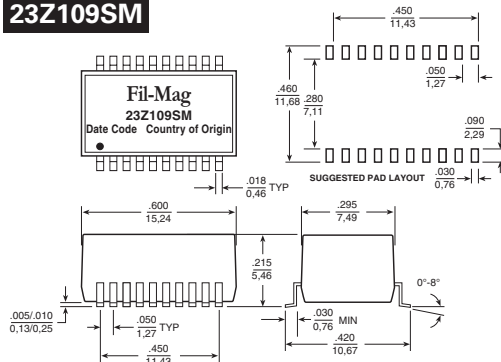
23Z105SM



23Z106SM



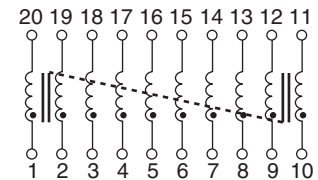
23Z109SM



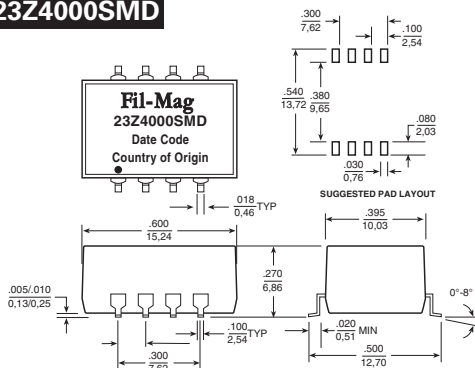
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

Weight 1.3 grams
Tape & Reel500/reel
Tube38/tube

23Z109SM



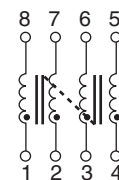
23Z4000SMD



Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

Weight 2.1 grams
Tape & Reel350/reel
Tube38/tube

23Z4000SMD



SURFACE MOUNT COMMON MODE CHOKES

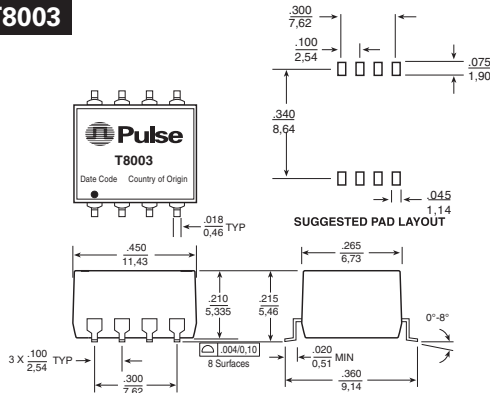
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Mechanicals

Schematics

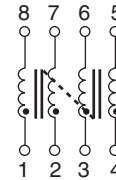
T8003



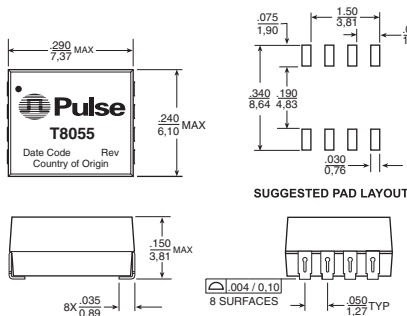
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,13}$

Weight 0.84 grams
Tape & Reel750/reel
Tube 100/tube

T8003



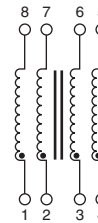
T8055



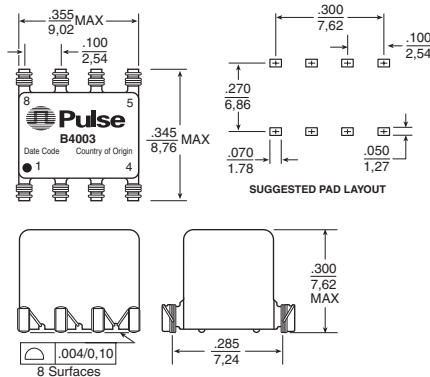
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 0.2 grams
Tape & Reel1750/reel
Tube 80/tube

T8055



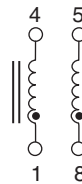
B4003



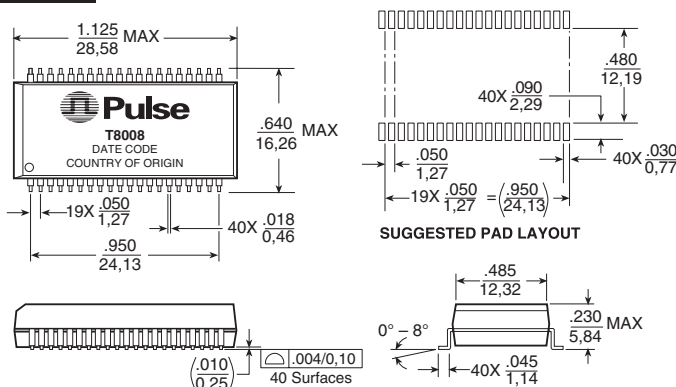
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 1.0 grams
Tape & Reel425/reel
Tube 50/tube

B4003



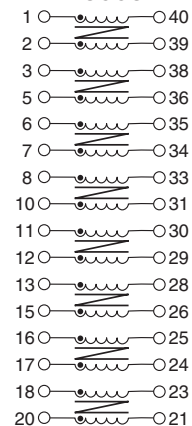
T8008



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 4.0 grams
Tape & Reel250/reel
Tube 15/tube

T8008



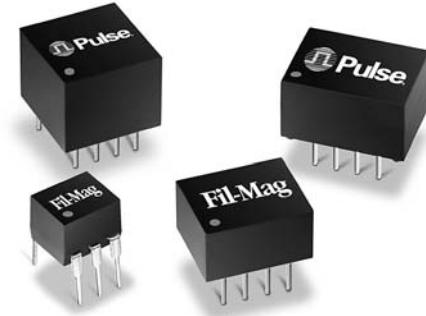
NOTE: The common mode test circuit for surface mount is the same as for through hole and is on the back page.





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SURFACE MOUNT COMMON MODE CHOKES

Suited for LAN and Telecom Applications



-  Reduces radiated EMI emissions
-  Filters common mode noise for EMI reduction
-  Common mode attenuation from 100 kHz to 1 GHz
-  Tube packaging available for through hole parts

Electrical Specifications @ 25°C

| Part Number | No. of Lines | Primary Inductance OCL (μH MIN) | Common Mode Attenuation (dB TYP) | | | | | | | | | DCR (Ω MAX) | Page Number of Mech. & Schem. |
|-------------|--------------|---------------------------------|----------------------------------|-------|--------|--------|--------|---------|---------|---------|-------|-------------|-------------------------------|
| | | | 100 kHz | 1 MHz | 10 MHz | 30 MHz | 50 MHz | 100 MHz | 300 MHz | 500 MHz | 1 GHz | | |
| PE-65944 | 2 | 24 | 1 | 14 | 28 | 32 | 33 | 28 | 13 | 5 | — | 0.30 | 8 |
| PE-67531 | 2 | 140 | 14 | 34 | 45 | 49 | 50 | 47 | 38 | 32 | 25 | 0.60 | 9 |
| B2005 | 2 | 9000 | 47 | 47 | 41 | 30 | 22 | 33 | 21 | 15 | 15 | 1.0 | 9 |
| PE-65554 | 4 | 24 | — | 21 | 32 | 38 | 39 | 34 | 24 | 13 | — | 0.30 | 8 |
| PE-68002 | 4 | 68 | 7 | 24 | 37 | 41 | 42 | 40 | 31 | 27 | — | 0.35 | 9 |
| 23Z104 | 4 | 85 | 8 | 23 | 29 | 29 | 28 | 25 | 17 | 11 | — | 0.20 | 10 |
| PE-67539 | 4 | 140 | 14 | 33 | 44 | 48 | 48 | 43 | 33 | 28 | 19 | 0.60 | 9 |
| PE-65542 | 4 | 1000 | 28 | 41 | 42 | 32 | 22 | — | — | — | — | 0.70 | 8 |
| PT5039 | 4 | 3600 | 42 | 43 | 42 | 32 | 27 | 17 | 15 | 9 | 13 | 0.50 | 8 |
| J0010D11 | 4 | — | 9 | 13 | 32 | 35 | 35 | 29 | 13 | 24 | 19 | 0.50 | 10 |
| PE-65950 | 4 | 4700±30% | 40 | 51 | 37 | 28 | 23 | 20 | — | — | — | 1.00 | 8 |
| PE-65541 | 4 | 6000 | 44 | 54 | 33 | 32 | 29 | — | — | — | — | 1.40 | 8 |
| PE-68613 | 4 | 3290 | 40 | 51 | 37 | 28 | 23 | 20 | — | — | — | 1.00 | 10 |

SURFACE MOUNT COMMON MODE CHOKES

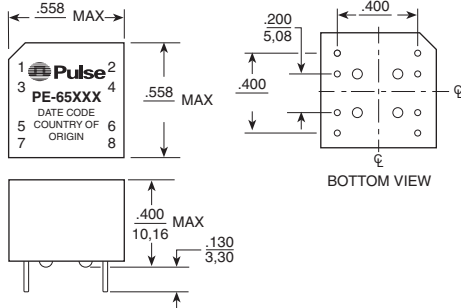
Suited for LAN and Telecom Applications



Mechanicals

Schematics

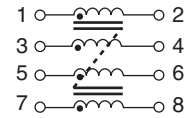
PE-65541, PE-65542, PE-65950



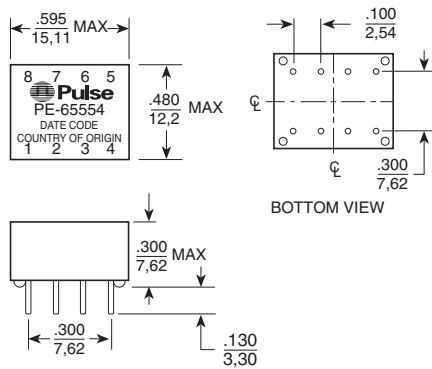
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight038 grams
Tube35/tube

PE-65541 PE-65542 PE-65950



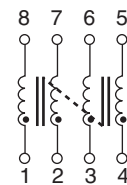
PE-65554



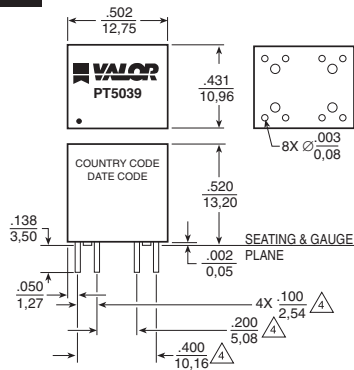
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight2.5 grams
Tube35/tube

PE-65554



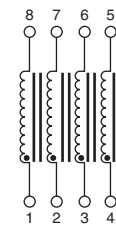
PT5039



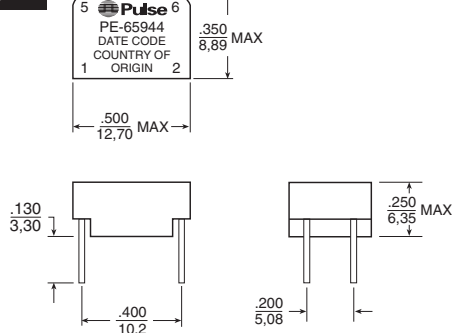
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight2.5 grams
Tube35/tube

PT5039



PE-65944



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight1.07 grams
Tube30/tube

PE-65944



THROUGH HOLE COMMON MODE CHOKES

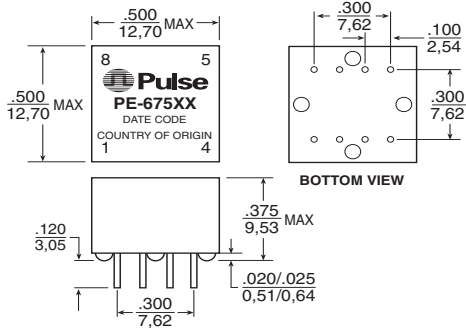
Suited for LAN and Telecom Applications



Mechanicals

Schematics

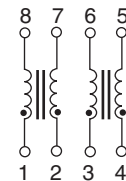
PE-67539



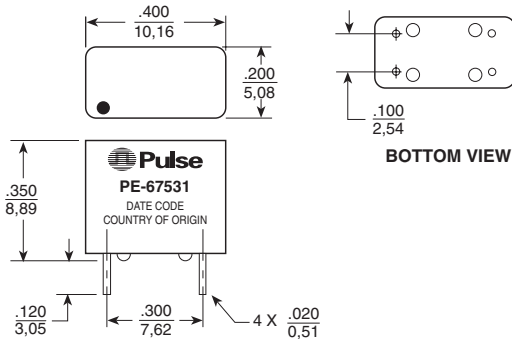
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 2.4 grams
Tube 40/tube

PE-67539



PE-67531



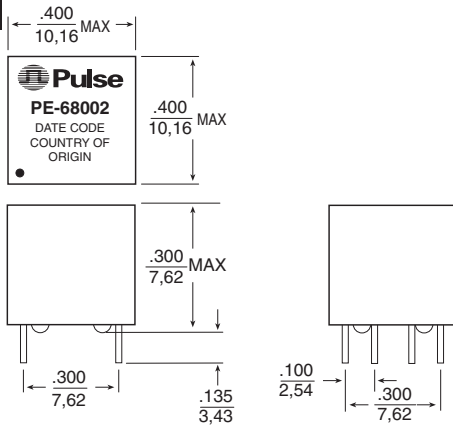
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 0.76 grams
Tube 40/tube

PE-67531



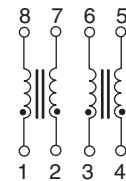
PE-68002



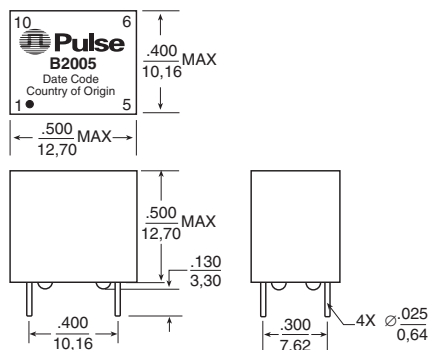
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 1.4 grams
Tube 50/tube

PE-68002



B2005



Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,13}$

Weight 3.7 grams
Tube 40/tube

B2005



SURFACE MOUNT COMMON MODE CHOKES

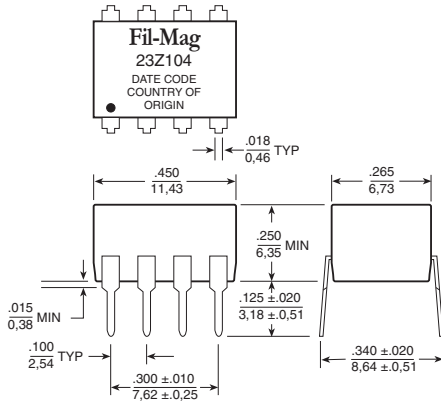
Suited for LAN and Telecom Applications



Mechanicals

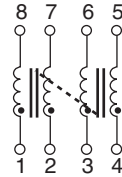
Schematics

23Z104



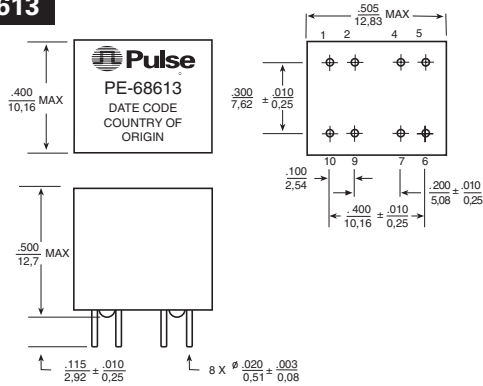
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,13}$

23Z104



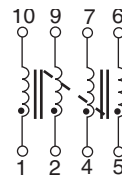
Weight1.0 grams
Tube50/tube

PE-68613



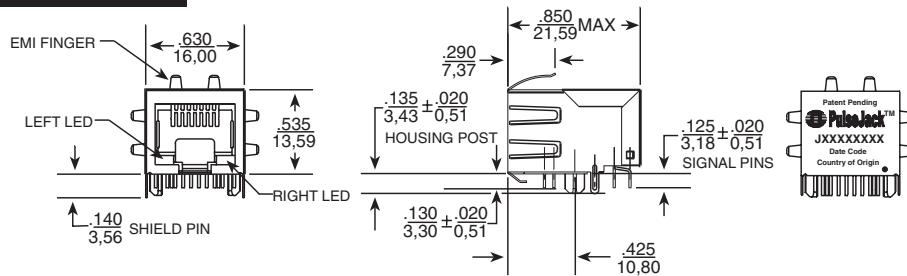
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,127}$

PE-68613

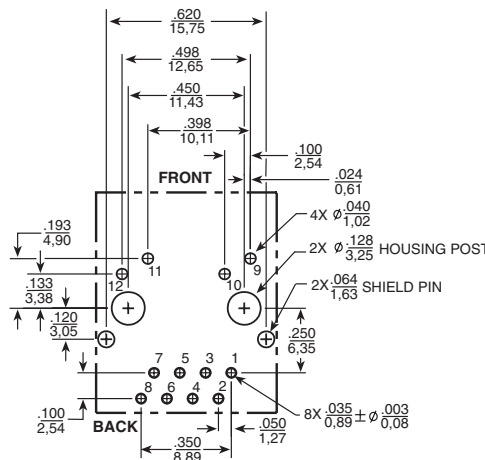


Weight3.5 grams
Tube40/tube

J0010D11 - Filtered Connector



Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

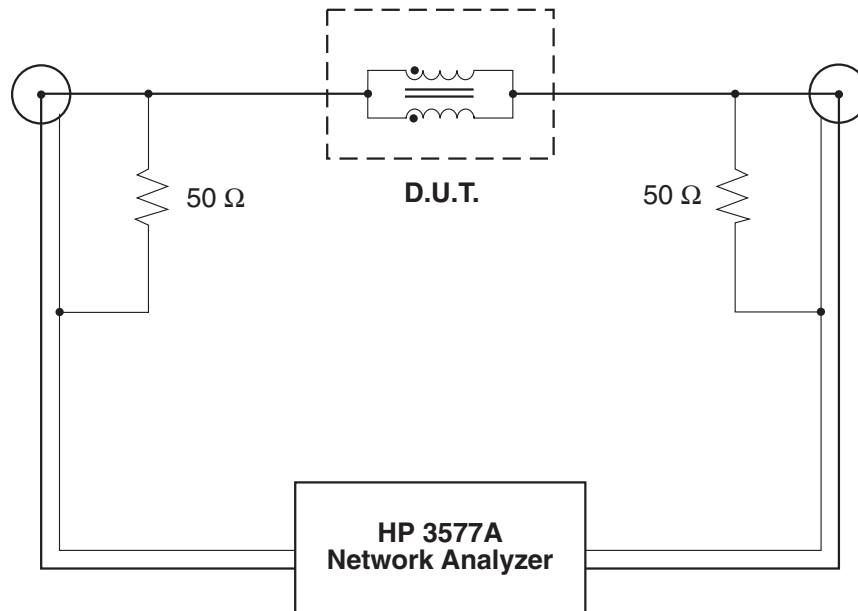


SURFACE MOUNT COMMON MODE CHOKES

Suited for LAN and Telecom Applications



Common Mode Test Circuit for Surface Mount and Through Hole



Test Notes:

1. Network analyzer calibrated to compensate for 50 Ω resistors.
2. All windings on a core are connected in parallel for the test.
3. For multi-core chokes, test data is for one core only. The windings on the other core(s) are left unconnected (i.e. open).

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