

### Model name

**PP 15-48-5**

Name of series    Output power    Nominal output voltage  
Nominal input voltage

### Features

- Compact and single output DC-DC converter  
Ultra-thin profile: 8mm
- Wide input voltage range  
DC5V input: DC4.5 ~ 7.2V (PP25: 4.7V ~ 7.2V)  
DC12V input: DC9 ~ 18V (PP1R5 ~ PP10: 8V ~ 16.5V)  
DC24V input: DC18 ~ 36V (PP1R5 ~ PP10: 18V ~ 32V)  
DC48V input: DC36 ~ 72V (PP1R5 ~ PP10: 32V ~ 63V)
- Operating temperature: -20 ~ +71°C
- Isolation between input and output
- PP15, PP25: Output voltage variable, on/off control
- 3 year warranty

### Specifications

<b>1. Input voltage range</b>	DC5V input: DC4.5 ~ 7.2V (PP25: 4.7 ~ 7.2V) DC12V input: DC9 ~ 18V (PP1R5 ~ PP10: 8 ~ 16.5V) DC24V input: DC18 ~ 36V (PP1R5 ~ PP10: 18 ~ 32V) DC48V input: DC36 ~ 72V (PP1R5 ~ PP10: 32 ~ 63V)
<b>2. Output voltage range</b>	Fixed (PP15, PP25: +5% available with external resistor)
<b>3. Cooling</b>	Convection cooling
<b>4. Operating ambient temperature</b>	-20 ~ +71°C PP1R5 ~ PP10: Output derating -20°C ~ +50°C: 100%, +71°C: 20% PP15, PP25: Output derating -20°C ~ +55°C: 100%, +71°C: 50% (5V input of PP25: Output derating -20°C ~ +50°C: 100%, +71°C: 50%) (48V input of PP25: output derating -20°C ~ +40°C: 100%, +71°C: 40%)
<b>5. Withstand voltage</b>	Input-output, Input-case: 500VAC for 1 min.
<b>6. Functions</b>	Over current protection, PP15, PP25: Remote on/off control & Over voltage protection

### Product lineup

Model name	Output voltage	Output current	Output power	UL	CSA	EN	
PP1R5	PP1R5-5-5	5V	0.3A	1.5W			
	PP1R5-5-12	12V	0.12A	1.44W			
	PP1R5-5-15	15V	0.1A	1.5W			
	PP1R5-12-5	5V	0.3A	1.5W			
	PP1R5-12-12	12V	0.12A	1.44W			
	PP1R5-12-15	15V	0.1A	1.5W			
	PP1R5-24-5	5V	0.3A	1.5W			
	PP1R5-24-12	12V	0.12A	1.44W			
	PP1R5-24-15	15V	0.1A	1.5W			
	PP1R5-48-5	5V	0.3A	1.5W			
	PP1R5-48-12	12V	0.12A	1.44W			
	PP1R5-48-15	15V	0.1A	1.5W			
PP3	PP3-5-5	5V	0.6A	3.0W			
	PP3-5-12	12V	0.24A	2.88W			
	PP3-5-15	15V	0.2A	3.0W			
	PP3-12-5	5V	0.6A	3.0W			
	PP3-12-12	12V	0.24A	2.88W			
	PP3-12-15	15V	0.2A	3.0W			
	PP3-24-5	5V	0.6A	3.0W	○	○	○
	PP3-24-12	12V	0.24A	2.88W	○	○	○
	PP3-24-15	15V	0.2A	3.0W	○	○	○
	PP3-48-5	5V	0.6A	3.0W	○	○	○
	PP3-48-12	12V	0.24A	2.88W	○	○	○
	PP3-48-15	15V	0.2A	3.0W	○	○	○
PP6	PP6-5-5	5V	1.2A	6.0W			
	PP6-5-12	12V	0.5A	6.0W			
	PP6-5-15	15V	0.4A	6.0W			
	PP6-12-5	5V	1.2A	6.0W			
	PP6-12-12	12V	0.5A	6.0W			
	PP6-12-15	15V	0.4A	6.0W			
	PP6-24-5	5V	1.2A	6.0W			
	PP6-24-12	12V	0.5A	6.0W			
	PP6-24-15	15V	0.4A	6.0W			
	PP6-48-5	5V	1.2A	6.0W			
	PP6-48-12	12V	0.5A	6.0W			
	PP6-48-15	15V	0.4A	6.0W			

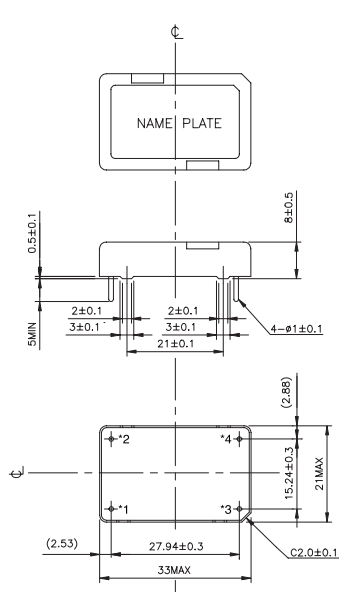
Model name	Output voltage	Output current	Output power	UL	CSA	EN	
PP10	PP10-5-5	5V	1.6A	8.0W			
	PP10-5-12	12V	0.7A	8.4W			
	PP10-5-15	15V	0.6A	9.0W			
	PP10-12-5	5V	2.0A	10.0W			
	PP10-12-12	12V	0.9A	10.8W			
	PP10-12-15	15V	0.7A	10.5W			
	PP10-24-5	5V	2.0A	10.0W			
	PP10-24-12	12V	0.9A	10.8W			
	PP10-24-15	15V	0.7A	10.5W			
	PP10-48-3.3	3.3V	2.0V	6.6W			
	PP10-48-5	5V	2.0A	10.0W			
	PP10-48-12	12V	0.9A	10.8W			
PP10-48-15	15V	0.7A	10.5W				
PP15	PP15-12-5	5V	2.4A	12W			
	PP15-12-12	12V	1.3A	15.6W			
	PP15-12-15	15V	1.0A	15W			
	PP15-24-5	5V	2.4A	12W			
	PP15-24-12	12V	1.3A	15.6W			
	PP15-24-15	15V	1.0A	15W			
	PP15-48-3.3	3.3V	2.4A	7.92W			
	PP15-48-5	5V	2.4A	12W	○	○	○
	PP15-48-12	12V	1.3A	15.6W			
	PP15-48-15	15V	1.0A	15W			
	PP25-5-3.3	3.3V	3.0A	9.9W			
	PP25-5-5.2	5.2V	2.9A	15.08W			
PP25	PP25-12-5	5V	4.0A	20W			
	PP25-12-12	12V	2.1A	25.2W	○	○	○
	PP25-12-15	15V	1.7A	25.5W			
	PP25-24-5	5V	4.0A	20W			
	PP25-24-12	12V	2.1A	25.2W	○	○	○
	PP25-24-15	15V	1.7A	25.5W			
	PP25-48-3.3	3.3V	5.0A	16.5W			
	PP25-48-5	5V	4.0A	20W	○	○	○
	PP25-48-12	12V	2.1A	25.2W	○	○	○
	PP25-48-15	15V	1.7A	25.5W			

○ : Safety standard approved

- Request customer specification for further details of specifications, outline, characteristics, etc. Read the instruction manual before usage.
- Contact us about delivery before ordering.

On-Board Type Power Supply

## PP3

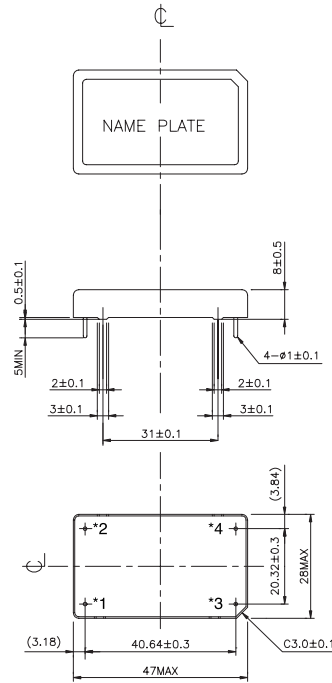


Terminal assignments

- \*1 +V □ INPUT
- \*2 -V □ INPUT
- \*3 +V □ OUTPUT
- \*4 -V □ OUTPUT

Case: Copper (Thickness 0.4mm)  
Weight: 15g

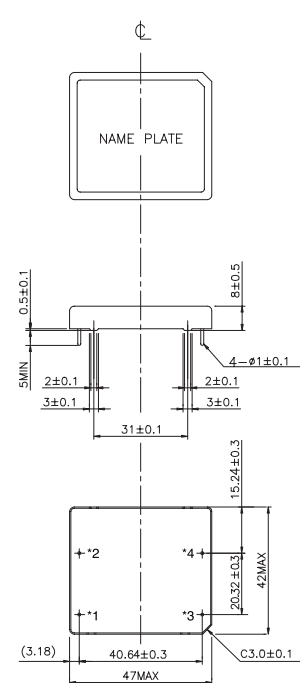
## PP6



Terminal assignments

- \*1 +V □ INPUT
- \*2 -V □ INPUT
- \*3 +V □ OUTPUT
- \*4 -V □ OUTPUT

Case: Copper (Thickness 0.4mm)  
Weight: 25g

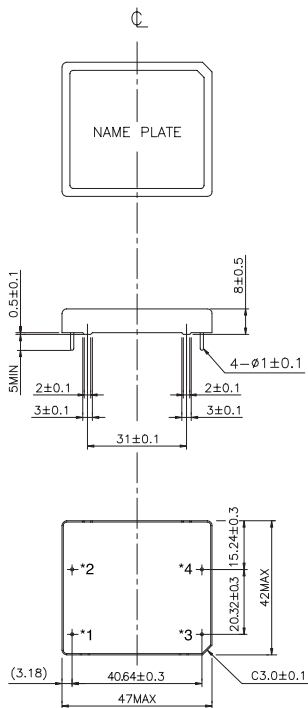


Terminal assignments

- \*1 +V □ INPUT
- \*2 -V □ INPUT
- \*3 +V □ OUTPUT
- \*4 -V □ OUTPUT

Case: Copper (Thickness 0.4mm)  
Weight: 40g

## PP10

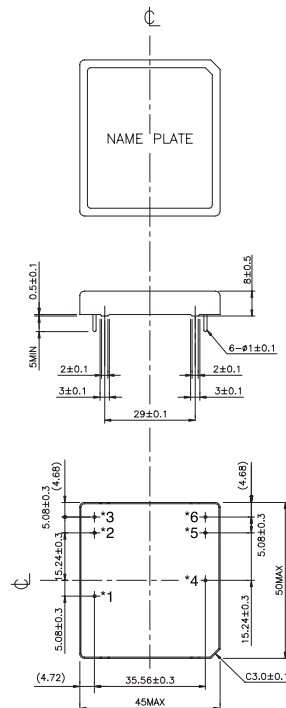


Terminal assignments

- \*1 +V □ INPUT
- \*2 -V □ INPUT
- \*3 +V □ OUTPUT
- \*4 -V □ OUTPUT

Case: Copper (Thickness 0.4mm)  
Weight: 40g

## PP15

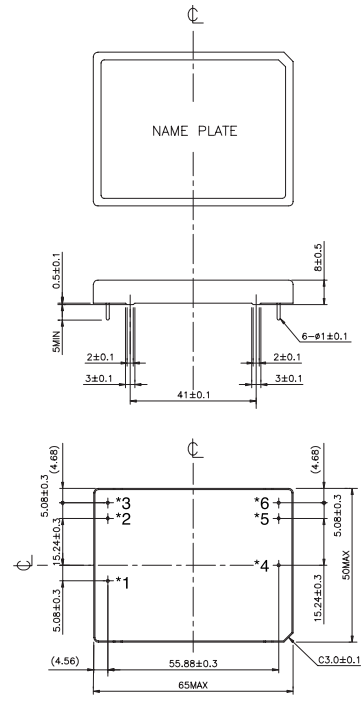


Terminal assignments

- \*1 +V □ INPUT
- \*2 -V □ INPUT
- \*3 CNT
- \*4 +V □ OUTPUT
- \*5 -V □ OUTPUT
- \*6 TRM

Case: Copper (Thickness 0.4mm)  
Weight: 55g

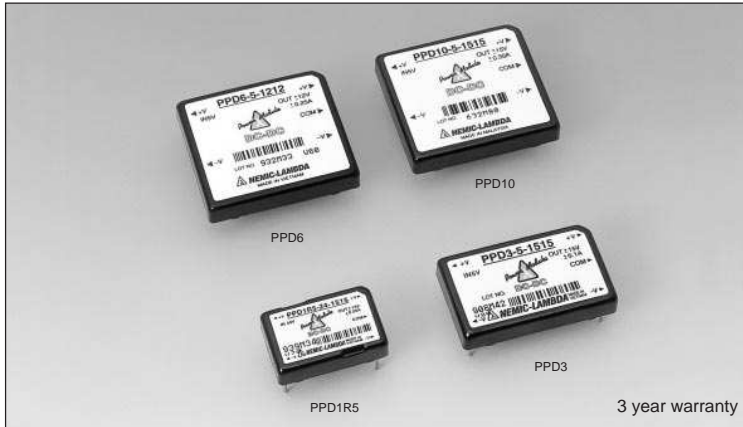
## PP25



Terminal assignments

- \*1 +V □ INPUT
- \*2 -V □ INPUT
- \*3CNT
- \*4 +V □ OUTPUT
- \*5 -V □ OUTPUT
- \*6 TRM

Case: Copper (Thickness 0.4mm)  
Weight: 65g



### Model name

# PPD 3-48-1212

Name of series      Output power      Nominal output voltage  
Nominal input voltage

### Features

- Compact and dual output DC-DC converter  
Ultra-low profile: 8mm
- Wide input voltage range  
DC5V input: DC4.5 ~ 7.2V  
DC12V input: DC8 ~ 16.5V  
DC24V input: DC18 ~ 32V  
DC48V input: DC32 ~ 63V
- Operating temperature: -20 ~ +71°C
- Isolation between input and output
- 3 year warranty

### Specifications

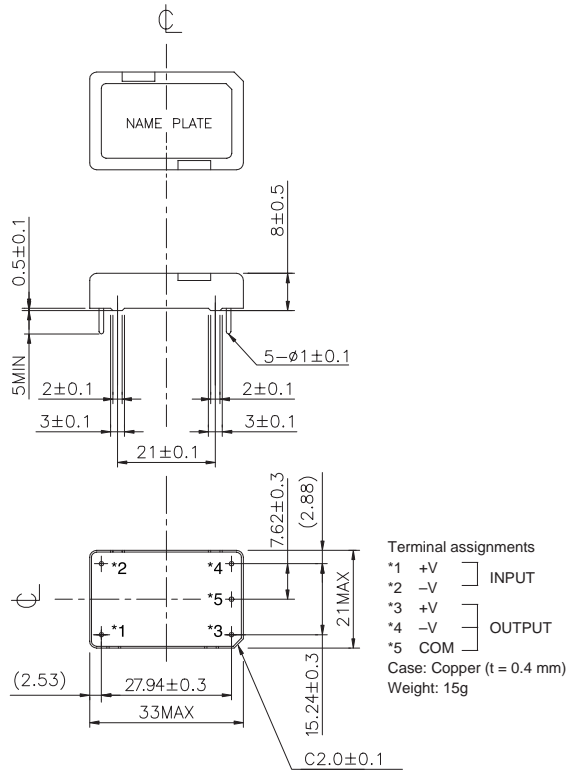
1. Input voltage range	DC5V input: DC4.5 ~ 7.2V DC12V input: DC8 ~ 16.5V DC24V input: DC18 ~ 32V DC48V input: DC32 ~ 63V
2. Output voltage range	Fixed
3. Cooling	Convection cooling
4. Operating ambient temperature (Standard mounting)	-20 ~ +71°C PPD1R5, PPD3: Output derating -20°C ~ +50°C: 100%, +71°C: 20% PPD6, PPD10: Output derating -20°C ~ +55°C: 100%, +71°C: 20%
5. Withstand voltage	Input-output, Input-case: 500VAC for 1 min.
6. Functions	Over voltage protection

### Product lineup

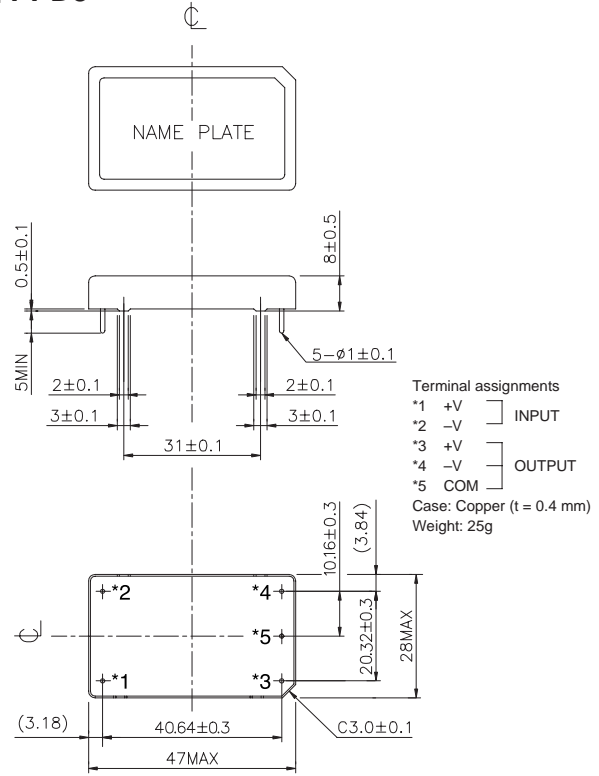
Model name	Output voltage	Output current	Output power	
PPD1R5	PPD1R5-5-1212	± 12V	± 60mA	1.44W
	PPD1R5-5-1515	± 15V	± 50mA	1.5W
	PPD1R5-12-1212	± 12V	± 60mA	1.44W
	PPD1R5-12-1515	± 15V	± 50mA	1.5W
	PPD1R5-24-1212	± 12V	± 60mA	1.44W
	PPD1R5-24-1515	± 15V	± 50mA	1.5W
	PPD1R5-48-1212	± 12V	± 60mA	1.44W
PPD3	PPD3-5-1212	± 12V	± 120mA	2.88W
	PPD3-5-1515	± 15V	± 100mA	3.0W
	PPD3-12-1212	± 12V	± 120mA	2.88W
	PPD3-12-1515	± 15V	± 100mA	3.0W
	PPD3-24-1212	± 12V	± 120mA	2.88W
	PPD3-24-1515	± 15V	± 100mA	3.0W
	PPD3-48-1212	± 12V	± 120mA	2.88W
PPD6	PPD6-5-1212	± 12V	± 250mA	6.0W
	PPD6-5-1515	± 15V	± 200mA	6.0W
	PPD6-12-1212	± 12V	± 250mA	6.0W
	PPD6-12-1515	± 15V	± 200mA	6.0W
	PPD6-24-1212	± 12V	± 250mA	6.0W
	PPD6-24-1515	± 15V	± 200mA	6.0W
	PPD6-48-1212	± 12V	± 250mA	6.0W
PPD10	PPD10-5-1212	± 12V	± 350mA	8.4W
	PPD10-5-1515	± 15V	± 300mA	9.0W
	PPD10-12-1212	± 12V	± 450mA	10.8W
	PPD10-12-1515	± 15V	± 350mA	10.5W
	PPD10-24-1212	± 12V	± 450mA	10.8W
	PPD10-24-1515	± 15V	± 350mA	10.5W
	PPD10-48-1212	± 12V	± 450mA	10.8W
PPD10-48-1515	± 15V	± 350mA	10.5W	

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## PPD1R5

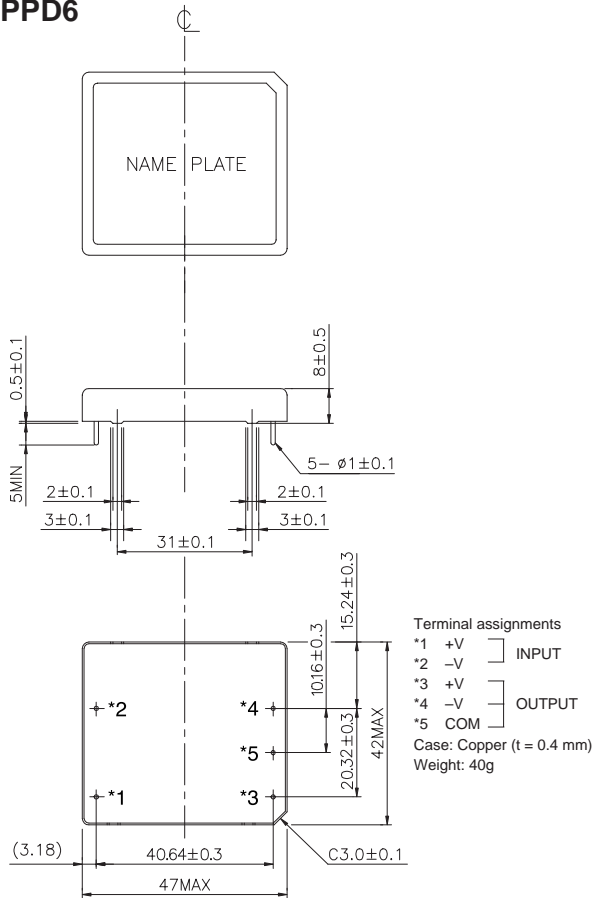


## PPD3

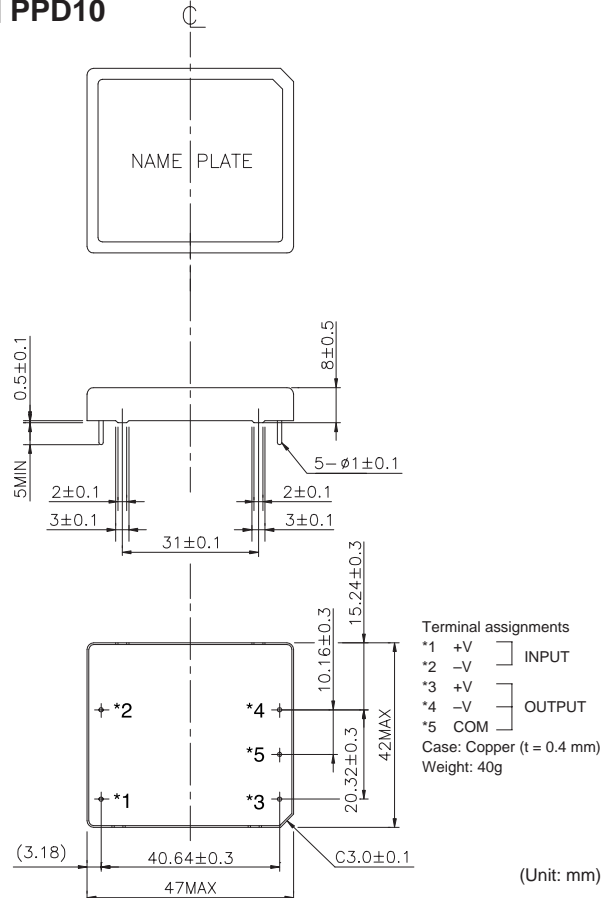


On-Board Type Power Supply

## PPD6



## PPD10



(Unit: mm)