

# P 10

## P 10 Watt Series DC/DC Converters

**Total power** 10 Watts  
**Input voltages** 5V, 12V, 24V, 48V  
**#of outputs** Single, Dual Output



### SPECIAL FEATURES

- CE(LVD) Marking
- High efficiency
- 300KHz fixed frequency
- Wide 2:1 input range
- Isolated output
- Surface mounting technology
- Small, compact size 1.85" x 1.65" x 0.35"
- Current mode control
- Output low ripple and noise
- Low start up current
- 3 years warranty

### ENVIRONMENTAL

- Operating temperature range ..... -20 ~71
- Option, see Note 1 ..... -40 ~85
- Storage temperature range ..... -40 ~105
- Operating humidity (non condensing) ..... 20%~90%RH
- Storage humidity (non condensing) ..... 10%~95%RH
- Cooling method ..... Convection
- Case material ..... Zn
- MTBF (MIL-HDBK-217F) ..... 4.8 x 10<sup>5</sup> hrs
- Safety(Single output) ..... CE(EN60950)  
 \*Approved through TÜV

### ELECTRICAL SPECIFICATIONS

INPUT	<ul style="list-style-type: none"> <li>· Input range ..... DC 4.5V - 7.2V, 8V - 16.5V, 18V - 32V, 32V - 63V</li> <li>· Efficiency ..... 72 ~ 85% typ.</li> </ul>
OUTPUT	<ul style="list-style-type: none"> <li>· Voltage tolerance ..... ± 2% (Single and uncomplementary dual)                ± 3% (Complementary dual)</li> <li>· Line regulation ..... ± 0.5%</li> <li>· Load regulation ..... ± 1% @ single                ± 2.5% @ complementary dual (minimum load 10%)                ± 1% output1                ± 4% output2 ] @dual</li> <li>· Ripple and Noise, pk-pk ..... Bandwidth : 20MHz                Magnitude : 1% Vout nom</li> </ul>
PROTECTION CIRCUIT	<ul style="list-style-type: none"> <li>· Short circuit protection ..... Current limited output (note2)</li> </ul>
ELECTRICALLY ISOLATED	<ul style="list-style-type: none"> <li>· Isolation ..... Input-output, input-case, output-case / DC 500V, 100Mohms</li> <li>· High pot ..... Input-output, input-case, output-case / AC 500V, 1minute</li> </ul>

**NOTE** 1. As a factory added option, the all model can be operated down to -40 , the suffix 'M' should be added to the model number when ordering. ex) PS10-24-5M  
 2. Long term continuous operation into a short circuit will compromise the reliability of the unit.

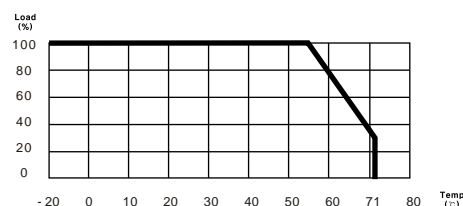
## Ordering Information

Input	Output1	Output2	Maximum Power	Ripple&Noise max	Efficiency Typ.	Model Number
4.5 - 7.2V	3.3V@1.60A		5.28W	50mVp-p	76%	<b>PS10-5-3R3</b>
4.5 - 7.2V	5V@1.60A		8.0W	50mVp-p	77%	<b>PS10-5-5</b>
4.5 - 7.2V	12V@0.70A		8.4W	120mVp-p	81%	<b>PS10-5-12</b>
4.5 - 7.2V	15V@0.60A		9.0W	150mVp-p	81%	<b>PS10-5-15</b>
4.5 - 7.2V	+12V@0.35A	-12V@0.35A	8.4W	120/120mVp-p	80%	<b>PD10-5-1212</b>
4.5 - 7.2V	+15V@0.30A	-15V@0.30A	9.0W	150/150mVp-p	78%	<b>PD10-5-1515</b>
4.5 - 7.2V	+5V@0.90A	+12V@0.40A	9.3W	75/120mVp-p	78%	<b>PD10-5-0512</b>
4.5 - 7.2V	+5V@0.90A	+15V@0.32A	9.3W	75/150mVp-p	78%	<b>PD10-5-0515</b>
8 - 16.5V	3.3V@2.00A		6.6W	50mVp-p	80%	<b>PS10-12-3R3</b>
8 - 16.5V	5V@2.00A		10.0W	50mVp-p	82%	<b>PS10-12-5</b>
8 - 16.5V	12V@0.90A		10.8W	120mVp-p	82%	<b>PS10-12-12</b>
8 - 16.5V	15V@0.70A		10.5W	150mVp-p	82%	<b>PS10-12-15</b>
8 - 16.5V	+12V@0.45A	-12V@0.45A	10.8W	120/120mVp-p	83%	<b>PD10-12-1212</b>
8 - 16.5V	+15V@0.35A	-15V@0.35A	10.5W	150/150mVp-p	85%	<b>PD10-12-1515</b>
8 - 16.5V	+5V@0.90A	+12V@0.40A	9.3W	75/120mVp-p	72%	<b>PD10-12-0512</b>
8 - 16.5V	+5V@0.90A	+15V@0.32A	9.3W	75/150mVp-p	72%	<b>PD10-12-0515</b>
18 - 32V	3.3V@2.00A		6.6W	50mVp-p	80%	<b>PS10-24-3R3</b>
18 - 32V	5V@2.00A		10.0W	50mVp-p	82%	<b>PS10-24-5</b>
18 - 32V	12V@0.90A		10.8W	120mVp-p	84%	<b>PS10-24-12</b>
18 - 32V	15V@0.70A		10.5W	150mVp-p	85%	<b>PS10-24-15</b>
18 - 32V	+12V@0.45A	-12V@0.45A	10.8W	120/120mVp-p	83%	<b>PD10-24-1212</b>
18 - 32V	+15V@0.35A	-15V@0.35A	10.5W	150/150mVp-p	83%	<b>PD10-24-1515</b>
18 - 32V	+5V@0.90A	+12V@0.40A	9.3W	75/120mVp-p	74%	<b>PD10-24-0512</b>
18 - 32V	+5V@0.90A	+15V@0.32A	9.3W	75/150mVp-p	73%	<b>PD10-24-0515</b>
32 - 63V	3.3V@2.00A		6.6W	50mVp-p	80%	<b>PS10-48-3R3</b>
32 - 63V	5V@2.00A		10.0W	50mVp-p	83%	<b>PS10-48-5</b>
32 - 63V	12V@0.90A		10.8W	120mVp-p	83%	<b>PS10-48-12</b>
32 - 63V	15V@0.70A		10.5W	150mVp-p	82%	<b>PS10-48-15</b>
32 - 63V	+12V@0.45A	-12V@0.45A	10.8W	120/120mVp-p	82%	<b>PD10-48-1212</b>
32 - 63V	+15V@0.35A	-15V@0.35A	10.5W	150/150mVp-p	83%	<b>PD10-48-1515</b>
32 - 63V	+5V@0.90A	+12V@0.40A	9.3W	75/120mVp-p	75%	<b>PD10-48-0512</b>
32 - 63V	+5V@0.90A	+15V@0.32A	9.3W	75/150mVp-p	75%	<b>PD10-48-0515</b>

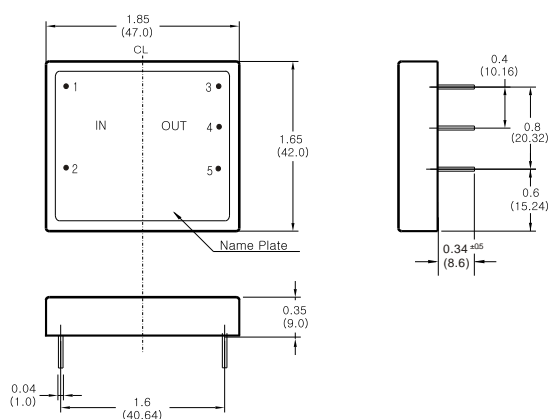
## Pin assignments

Single Output	Dual Output
1. +Vin	1. +Vin
2. -Vin	2. -Vin
3. +Vout	3. Output1
4. No pin	4. COM
5. -Vout	5. Output2

## Derating Curve



## Dimensions



### NOTES

1. All dimensions are in inches and(mm).
2. Weight : 35g or less

