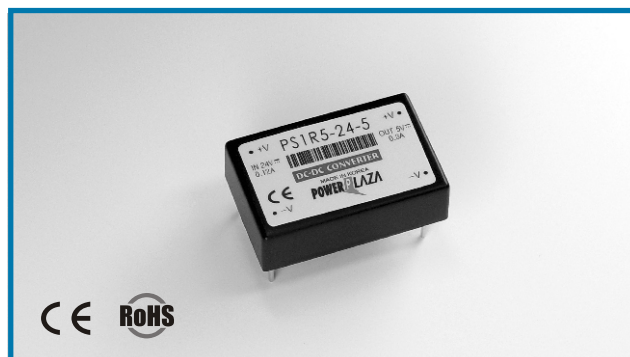


# P1R5

## P 1.5 Watt Series DC/DC Converters

**Total power** 1.5 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 1.3" x 0.83" x 0.4"
- 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) .....  $7.9 \times 10^5$  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 ..... 66 - 81% typ.</li> </ul>
OUTPUT	<ul style="list-style-type: none"> <li>· Voltage tolerance ..... <math>\pm 2\%</math> (Single and uncomplementary dual)  <math>\pm 3\%</math> (Complementary dual)</li> <li>· Line regulation ..... <math>\pm 0.5\%</math></li> <li>· Load regulation ..... <math>\pm 1\%</math> @ Single  <math>\pm 2.5\%</math> @ dual(minimum load 10%)</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.

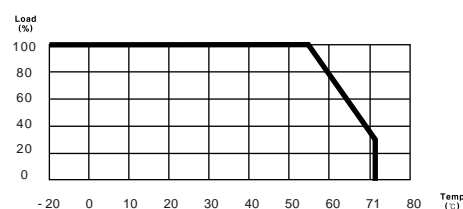
## Ordering Information

Input	Output1	Output2	Maximum Power	Ripple&Noise max	Efficiency Typ.	Model Number
4.5 - 7.2V	3.3V@0.30A		0.99W	50mVp-p	66%	<b>PS1R5-5-3R3</b>
4.5 - 7.2V	5V@0.30A		1.5W	50mVp-p	70%	<b>PS1R5-5-5</b>
4.5 - 7.2V	12V@0.125A		1.5W	120mVp-p	75%	<b>PS1R5-5-12</b>
4.5 - 7.2V	15V@0.10A		1.5W	150mVp-p	75%	<b>PS1R5-5-15</b>
4.5 - 7.2V	+12V@0.06A	-12V@0.06A	1.44W	120/120mVp-p	72%	<b>PD1R5-5-1212</b>
4.5 - 7.2V	+15V@0.05A	-15V@0.05A	1.5W	150/150mVp-p	75%	<b>PD1R5-5-1515</b>
8 - 16.5V	3.3V@0.30A		0.99W	50mVp-p	75%	<b>PS1R5-12-3R3</b>
8 - 16.5V	5V@0.30A		1.5W	50mVp-p	78%	<b>PS1R5-12-5</b>
8 - 16.5V	12V@0.125A		1.5W	120mVp-p	81%	<b>PS1R5-12-12</b>
8 - 16.5V	15V@0.10A		1.5W	150mVp-p	81%	<b>PS1R5-12-15</b>
8 - 16.5V	+12V@0.06A	-12V@0.06A	1.44W	120/120mVp-p	81%	<b>PD1R5-12-1212</b>
8 - 16.5V	+15V@0.05A	-15V@0.05A	1.5W	150/150mVp-p	81%	<b>PD1R5-12-1515</b>
18 - 32V	3.3V@0.30A		0.99W	50mVp-p	70%	<b>PS1R5-24-3R3</b>
18 - 32V	5V@0.30A		1.5W	50mVp-p	73%	<b>PS1R5-24-5</b>
18 - 32V	12V@0.125A		1.5W	120mVp-p	78%	<b>PS1R5-24-12</b>
18 - 32V	15V@0.10A		1.5W	150mVp-p	78%	<b>PS1R5-24-15</b>
18 - 32V	+12V@0.06A	-12V@0.06A	1.44W	120/120mVp-p	74%	<b>PD1R5-24-1212</b>
18 - 32V	+15V@0.05A	-15V@0.05A	1.5W	150/150mVp-p	75%	<b>PD1R5-24-1515</b>
32 - 63V	3.3V@0.30A		0.99W	50mVp-p	68%	<b>PS1R5-48-3R3</b>
32 - 63V	5V@0.30A		1.5W	50mVp-p	70%	<b>PS1R5-48-5</b>
32 - 63V	12V@0.125A		1.5W	120mVp-p	75%	<b>PS1R5-48-12</b>
32 - 63V	15V@0.10A		1.5W	150mVp-p	73%	<b>PS1R5-48-15</b>
32 - 63V	+12V@0.06A	-12V@0.06A	1.44W	120/120mVp-p	74%	<b>PD1R5-48-1212</b>
32 - 63V	+15V@0.05A	-15V@0.05A	1.5W	150/150mVp-p	73%	<b>PD1R5-48-1515</b>

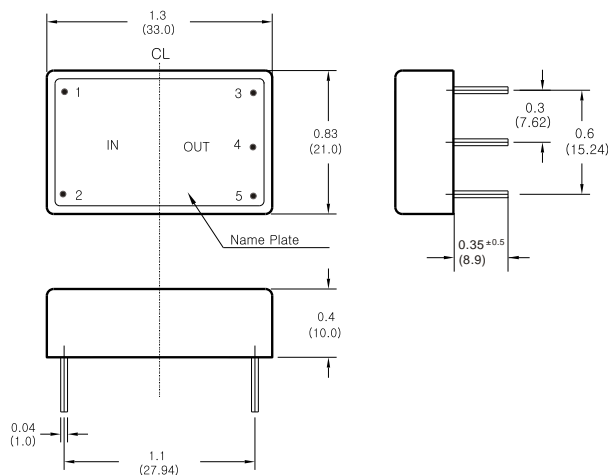
## Pin assignments

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

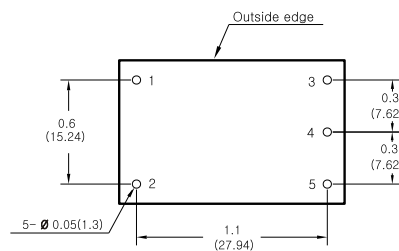


## Dimensions



### NOTES

1. All dimensions are in inches and(mm).
2. Weight : 12g or less



Mounting hole top view