SP1R5 Series

1.5W ISOLATED DC-DC CONVERTER

FEATURES 5V, 12V, 24V, 48V Inputs / Single, Dual Outputs

- High Efficiency
- Wide 2:1 Input Range
- Small Footprint / Low Profile
- Built-in Over Current Protection Circuit
- Input-Output Isolation
- Output Voltage Adjustment (TRM) (Single Outputs)
- Open Case Type
- Long Life Design (Employ Only Ceramic Capacitors)
- Wide Operating Temperature Range (-40℃ ~ 85℃)
- 5 Year Warranty

ELECTRICAL SPECIFICATIONS

Input	· Input Range	DC 5V(4.5 - 9), 12V(9 - 18), 24V(18 - 36), 48V(36 - 76)
	· Efficiency	73 - 81% Typ.
Output	· Output Voltages	3.3V, 5V, 12V, 15V, ±12V, ±15V
	· Output Voltage Tolerance	±2.0% (Single), ±3.0% (Dual)
	· Line Regulation	±0.5% Max.
	· Load Regulation	±1.0% Max. (Single), ±2.5% Max. (Dual : Minimum Load 10%)
	· Ripple and Noise	1% of Vout (Bandwidth : 20MHz)
	· Output Voltage Trim Range	±10.0% Typ.
Protection Circuit	· Over Current Protection	Work Over 105% of Rating (Current Limited Output) (NOTE 1)
Electrically Isolated	· Isolation	Input-Output, Input-Case, Output-Case / DC500V, 100MΩ
	· High Pot	Input-Output, Input-Case, Output-Case / AC500V, 1Min.

ENVIRONMENTAL

· Operating Temperature Range	-40℃ - 85℃
· Operating Humidity (Non-Condensing)	5% - 95%RH
· Storage Temperature Range	-40℃ - 105℃
· Storage Humidity (Non-Condensing)	5% - 95%RH
· Cooling Method	Convection, Forced Air
· MTBF (MIL-HDBK-217F)	9×10^5 hrs
· Safety (Single Output)	UL (UL 60950-1) / CE_LVD (EN 60950-1) through UL

NOTE 1. Long term continuous operation into a short circuit will compromise the reliability of the unit.

Main Branch +82-2-855-4955 sales@powerplaza.co.kr

ORDERING INFORMATION

Input	Output1	Output2	Maximum Power	Ripple&Noise Max.	Efficiency Typ.	Model Number
4.5 - 9V	3.3V@0.40A		1.32W	50mVp-p	73%	**SPS1R5-5-3R3(H)**
4.5 - 9V	5V@0.30A		1.50W	50mVp-p	78%	**SPS1R5-5-5(H)**
4.5 - 9V	12V@0.13A		1.56W	120mVp-p	81%	**SPS1R5-5-12(H)**
4.5 - 9V	15V@0.10A		1.50W	150mVp-p	81%	**SPS1R5-5-15(H)**
4.5 - 9V	+12V@0.065A	-12V@0.065A	1.56W	120/120mVp-p	80%	**SPD1R5-5-1212(H)**
4.5 - 9V	+15V@0.050A	-15V@0.050A	1.50W	150/150mVp-p	80%	**SPD1R5-5-1515(H)**
9 - 18V	3.3V@0.40A		1.32W	50mVp-p	73%	**SPS1R5-12-3R3(H)**
9 - 18V	5V@0.30A		1.50W	50mVp-p	78%	**SPS1R5-12-5(H)**
9 - 18V	12V@0.13A		1.56W	120mVp-p	81%	**SPS1R5-12-12(H)**
9 - 18V	15V@0.10A		1.50W	150mVp-p	81%	**SPS1R5-12-15(H)**
9 - 18V	+12V@0.065A	-12V@0.065A	1.56W	120/120mVp-p	80%	**SPD1R5-12-1212(H)**
9 - 18V	+15V@0.050A	-15V@0.050A	1.50W	150/150mVp-p	80%	**SPD1R5-12-1515(H)**
18 - 36V	3.3V@0.40A		1.32W	50mVp-p	73%	**SPS1R5-24-3R3(H)**
18 - 36V	5V@0.30A		1.50W	50mVp-p	78%	**SPS1R5-24-5(H)**
18 - 36V	12V@0.13A		1.56W	120mVp-p	81%	**SPS1R5-24-12(H)**
18 - 36V	15V@0.10A		1.50W	150mVp-p	81%	**SPS1R5-24-15(H)**
18 - 36V	+12V@0.065A	-12V@0.065A	1.56W	120/120mVp-p	80%	**SPD1R5-24-1212(H)**
18 - 36V	+15V@0.050A	-15V@0.050A	1.50W	150/150mVp-p	80%	**SPD1R5-24-1515(H)**
36 - 76V	3.3V@0.40A		1.32W	70mVp-p	73%	**SPS1R5-48-3R3(H)**
36 - 76V	5V@0.30A		1.50W	70mVp-p	78%	**SPS1R5-48-5(H)**
36 - 76V	12V@0.13A		1.56W	120mVp-p	80%	**SPS1R5-48-12(H)**
36 - 76V	15V@0.10A		1.50W	150mVp-p	80%	**SPS1R5-48-15(H)**
36 - 76V	+12V@0.065A	-12V@0.065A	1.56W	120/120mVp-p	80%	**SPD1R5-48-1212(H)**
36 - 76V	+15V@0.050A	-15V@0.050A	1.50W	150/150mVp-p	80%	**SPD1R5-48-1515(H)**

H : SMT package (No Case)

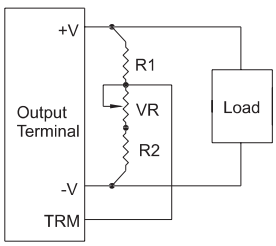
PIN ASSIGNMENTS

Single Output	Dual Output
1. +Vin	1. +Vin
2. - Vin	2. - Vin
3. TRM	3. - Vout
4. - Vout	4. COM
5. +Vout	5. +Vout

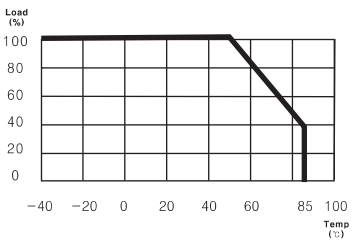
EXTERNAL PARTS

Model	Output Voltage	VR	R1	R2
SP1R5	3.3V	500Ω	1.0kΩ	560Ω
	5V	1.0kΩ	1.0kΩ	680Ω
	12V	1.0kΩ	3.9kΩ	680Ω
	15V	1.0kΩ	5.6kΩ	750Ω

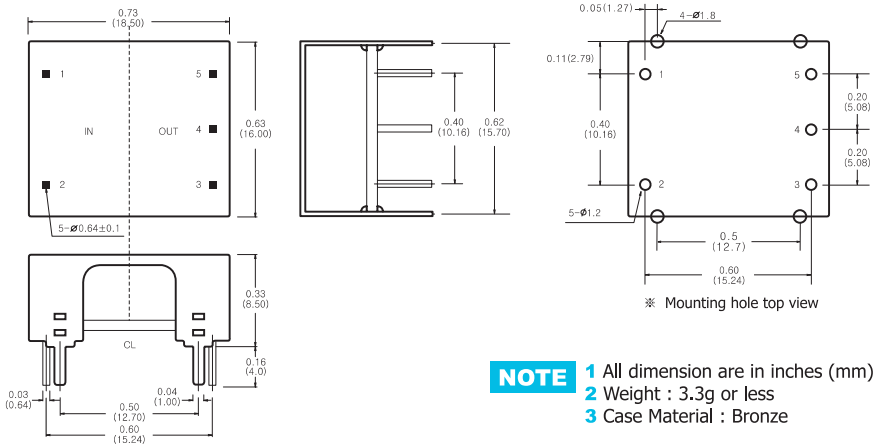
TRIM METHOD



DERATING CURVE



DIMENSIONS



※ Mounting hole top view

NOTE
1 All dimension are in inches (mm)
2 Weight : 3.3g or less
3 Case Material : Bronze