

SP6 Series

6W 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
- Remote On/Off Control (CNT)
- Output Voltage Adjustment (TRM) (Single Outputs)
- Open Case Type
- Long Life Design (Employ Only Ceramic Capacitors)
- Wide Operating Temperature Range (-40°C ~ 85°C)
- 5 Year Warrant

ELECTRICAL SPECIFICATIONS

Input

- Input Range DC 5V(4.5 - 9), 12V(9 - 18), 24V(18 - 36), 48V(36 - 76)
- Efficiency 72 - 86% Typ.
- Remote On/Off Control [On : Short to -Vin
Off : Open

Output

- Output Voltages 3.3V, 5V, 12V, 15V, $\pm 12V$, $\pm 15V$
- Output Voltage Tolerance $\pm 2.0\%$ (Single), $\pm 3.0\%$ (Dual)
- Line Regulation $\pm 0.5\%$ Max.
- Load Regulation $\pm 1.0\%$ Max. (Single), $\pm 2.5\%$ Max. (Dual : Minimum Load 10%)
- Ripple and Noise 1% of Vout (Bandwidth : 20MHz)
- Output Voltage Trim Range $\pm 10.0\%$ 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, 100M Ω
- High Pot Input-Output, Input-Case, Output-Case / AC500V, 1Min.

ENVIRONMENTAL

- Operating Temperature Range -40°C ~ 85°C
- Operating Humidity (Non-Condensing) 5% ~ 95%RH
- Storage Temperature Range -40°C ~ 105°C
- Storage Humidity (Non-Condensing) 5% ~ 95%RH
- Cooling Method Convection, Forced Air
- MTBF (MIL-HDBK-217F) 5.6×10^5 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.

ORDERING INFORMATION

Input	Output1	Output2	Maximum Power	Ripple & Noise Max.	Efficiency Typ.	Model Number
4.5 - 9V	3.3V@1.20A		3.96W	50mVp-p	72%	SPS6-5-3R3
4.5 - 9V	5V@1.00A		5.00W	50mVp-p	77%	SPS6-5-5
4.5 - 9V	12V@0.50A		6.00W	120mVp-p	80%	SPS6-5-12
4.5 - 9V	15V@0.40A		6.00W	150mVp-p	80%	SPS6-5-15
4.5 - 9V	+12V@0.25A	-12V@0.25A	6.00W	120/120mVp-p	82%	SPD6-5-1212
4.5 - 9V	+15V@0.20A	-15V@0.20A	6.00W	150/150mVp-p	82%	SPD6-5-1515
9 - 18V	3.3V@1.50A		4.95W	50mVp-p	77%	SPS6-12-3R3
9 - 18V	5V@1.20A		6.00W	50mVp-p	80%	SPS6-12-5
9 - 18V	12V@0.50A		6.00W	120mVp-p	84%	SPS6-12-12
9 - 18V	15V@0.40A		6.00W	150mVp-p	85%	SPS6-12-15
9 - 18V	+12V@0.25A	-12V@0.25A	6.00W	120/120mVp-p	85%	SPD6-12-1212
9 - 18V	+15V@0.20A	-15V@0.20A	6.00W	150/150mVp-p	85%	SPD6-12-1515
18 - 36V	3.3V@1.50A		4.95W	50mVp-p	74%	SPS6-24-3R3
18 - 36V	5V@1.20A		6.00W	50mVp-p	80%	SPS6-24-5
18 - 36V	12V@0.50A		6.00W	120mVp-p	82%	SPS6-24-12
18 - 36V	15V@0.40A		6.00W	150mVp-p	83%	SPS6-24-15
18 - 36V	+12V@0.25A	-12V@0.25A	6.00W	120/120mVp-p	84%	SPD6-24-1212
18 - 36V	+15V@0.20A	-15V@0.20A	6.00W	150/150mVp-p	84%	SPD6-24-1515
36 - 76V	3.3V@1.50A		4.95W	50mVp-p	75%	SPS6-48-3R3
36 - 76V	5V@1.20A		6.00W	50mVp-p	81%	SPS6-48-5
36 - 76V	12V@0.50A		6.00W	120mVp-p	85%	SPS6-48-12
36 - 76V	15V@0.40A		6.00W	150mVp-p	85%	SPS6-48-15
36 - 76V	+12V@0.25A	-12V@0.25A	6.00W	120/120mVp-p	85%	SPD6-48-1212
36 - 76V	+15V@0.20A	-15V@0.20A	6.00W	150/150mVp-p	86%	SPD6-48-1515

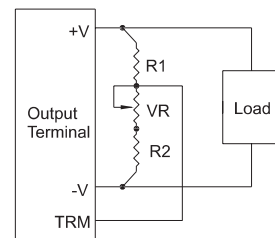
PIN ASSIGNMENTS

Single Output	Dual Output
1. +Vin	1. +Vin
2. - Vin	2. - Vin
3. CNT	3. CNT
4. TRM	4. - Vout
5. - Vout	5. No Pin
6. No Pin	6. COM
7. +Vout	7. +Vout

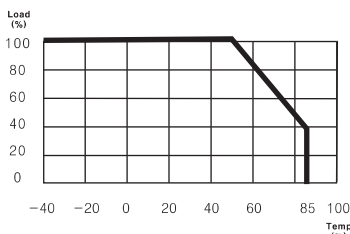
EXTERNAL PARTS

Model	Output Voltage	VR	R1	R2
SPS6	3.3V	500Ω	1.0kΩ	560Ω
	5V	1.0kΩ	1.0kΩ	680Ω
	12V	1.0kΩ	3.9kΩ	680Ω
	15V	1.0kΩ	5.6kΩ	750Ω

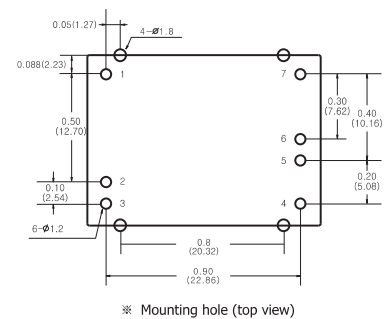
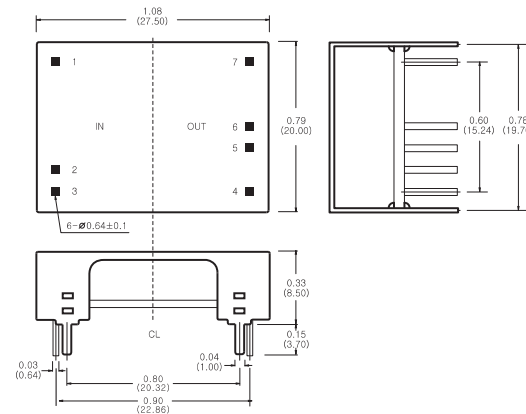
TRIM METHOD



DERATING CURVE



DIMENSIONS



- NOTE**
- 1 All dimension are in inches (mm)
 - 2 Weight : 5.8g or less
 - 3 Case Material : Bronze