



2S7WA_3RP series

2W - Single/Dual Output - Wide Input - Isolated & Regulated SIP Package

DC-DC Converter 2 Watt

- + 7PIN SIP package
- + 2:1 Wide input voltage range
- + High efficiency up to 83%
- + Regulated output types
- + Internal SMD construction
- + Operating temperature: -40°C to +85°C
- + Short circuit protection (SCP)
- + RoHS compliant
- + No external component required
- + Industry standard pinout

The 2S7WA_3RP series are specially designed for applications where a group of polar power supplies are isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

- 1) Where the voltage of the input power supply needs a wide input range
- 2) Where isolation is necessary between input and output (isolation voltage $\leq 3000\text{VDC}$);
- 3) Where the regulation of the output voltage and the output ripple noise are demanding.



Common specifications	
Input voltage range:	2:1
Filter:	Capacitor
Short circuit protection:	Continuous
Cooling:	Free air convection
Operation temperature range:	-40°C~+85°C
Storage temperature range:	-55°C ~+125°C
Storage humidity range:	< 95%
Temperature coefficient:	0.03 %/°C MAX (full load)
Switching Frequency:	100kHz TYP
Case material:	DAP
MTBF (MIL-HDBK 217F):	+25°C: 1500000 hours
Weight:	2.7g

Output specifications						
Item	Test condition	Min	Typ	Max	Units	
Voltage tolerance	100% full load			±5	%	
Line regulation	Regulated		±0.5		%	
Load regulation	Regulated		±1.5		%	
Output ripple & noise	20MHz Bandwidth • 5V, 9V • 12-24V			100 1% of Vout	mVp-p mVp-p	
Transient response setting time	50% load step change		350		us	

Example:

2S7WA_0505S3RP

2 = 2Watt; S7 = SIP7; W = 2:1 Input; A = Pinning; 5 Vin; 5Vout;
S = Single Output; 3 = 3000 VDC Isolation; R= Regulated Output;
P = Short circuit protection (SCP)

Note:

1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed.
2. All specifications measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.

Isolation specifications						
Item	Test condition	Min	Typ	Max	Units	
Isolation voltage	Tested for 1 second		3000		VDC	
Isolation resistance	500VDC	1000			MΩ	

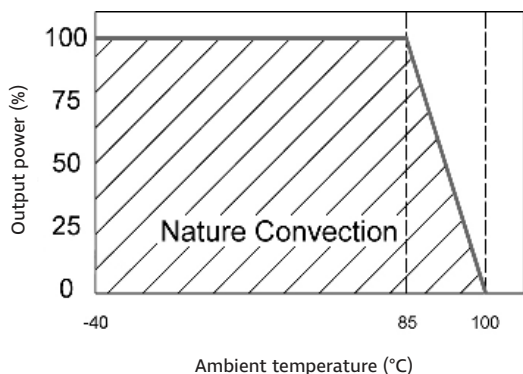
Product Selection Guide

Part Number	Input Voltage Range [V]	Output Voltage [VDC]	Output Current [mA]	Efficiency [%, max]
2S7WA_0505S3RP	4.5-9	5	400	70
2S7WA_0509S3RP	4.5-9	9	222	72
2S7WA_0512S3RP	4.5-9	12	167	75
2S7WA_0515S3RP	4.5-9	15	133	78
2S7WA_0524S3RP	4.5-9	24	84	80
2S7WA_1205S3RP	9-18	5	400	75
2S7WA_1209S3RP	9-18	9	222	78
2S7WA_1212S3RP	9-18	12	167	80
2S7WA_1215S3RP	9-18	15	133	80
2S7WA_1224S3RP	9-18	24	84	83
2S7WA_2405S3RP	18-36	5	400	76
2S7WA_2409S3RP	18-36	9	222	78
2S7WA_2412S3RP	18-36	12	167	80
2S7WA_2415S3RP	18-36	15	133	80
2S7WA_2424S3RP	18-36	24	84	83

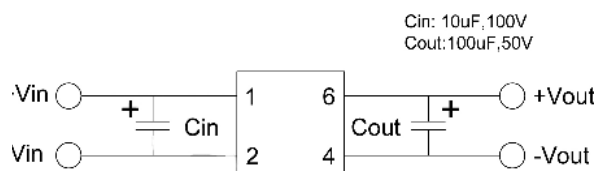
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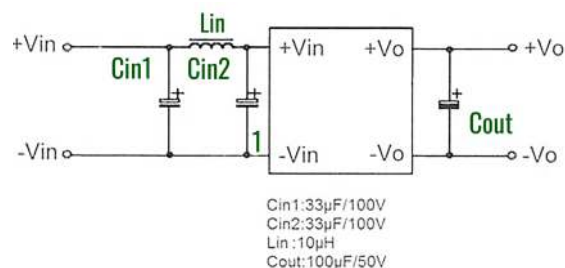
Derating graph



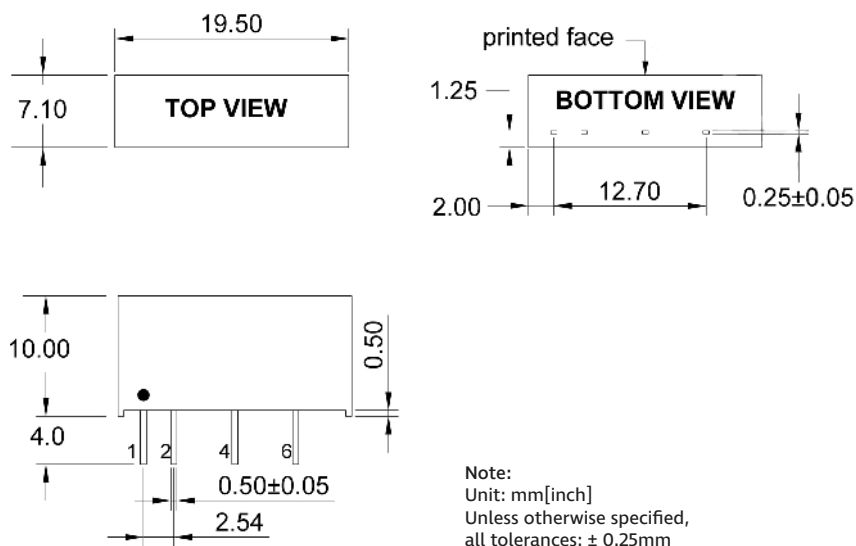
Recommended test circuit



EMC solution-recommended circuit



Mechanical dimensions



PIN connection:

PIN	1	2	4	6
Single	+Vin	-Vin	-Vout	+Vout