



## 1S7WA\_3RP series

1W - Single/Dual Output - Wide Input - Isolated & Regulated SIP Package

### DC-DC Converter

1 Watt

- ⊕ 7PIN SIP package
- ⊕ 2:1 Wide input voltage range
- ⊕ High Efficiency up to 80%
- ⊕ Regulated output types
- ⊕ Internal SMD construction
- ⊕ Operating temperature: -40°C to +85°C
- ⊕ Short circuit protection (SCP)
- ⊕ RoHS Compliance
- ⊕ No external component required
- ⊕ Industry standard pinout

The 1S7WA\_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

#### Isolation specifications

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

#### 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:

##### 1S7WA\_0505S3RP

1 = 1Watt; S7 = SIP7; W = 2:1 Input; A = Pinning; 0505 = 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.

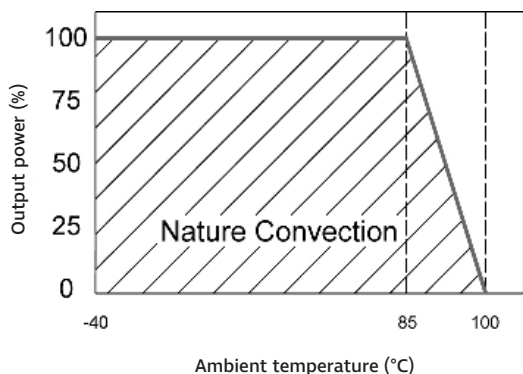
## Product Selection Guide

Part Number	Input Voltage Range [V]	Output Voltage [VDC]	Output Current [mA]	Efficiency [%, max]
1S7WA_0505S3RP	4.5-9	5	200	65
1S7WA_0509S3RP	4.5-9	9	112	70
1S7WA_0512S3RP	4.5-9	12	84	70
1S7WA_0515S3RP	4.5-9	15	67	70
1S7WA_0524S3RP	4.5-9	24	42	75
1S7WA_1205S3RP	9-18	5	200	70
1S7WA_1209S3RP	9-18	9	112	72
1S7WA_1212S3RP	9-18	12	84	73
1S7WA_1215S3RP	9-18	15	67	75
1S7WA_1224S3RP	9-18	24	42	80
1S7WA_2405S3RP	18-36	5	200	75
1S7WA_2409S3RP	18-36	9	112	75
1S7WA_2412S3RP	18-36	12	84	78
1S7WA_2415S3RP	18-36	15	67	78
1S7WA_2424S3RP	18-36	24	42	80

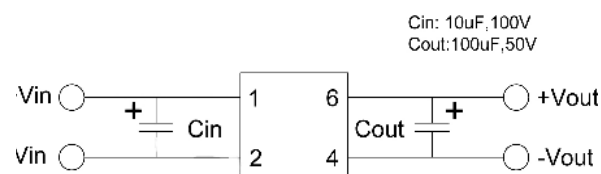
## 1S7WA\_3RP series

1W - Single/Dual Output - Wide Input - Isolated & Regulated  
SIP Package

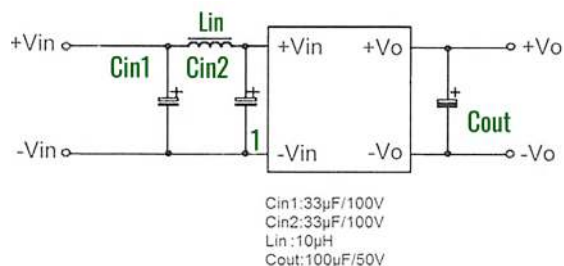
### Derating graph



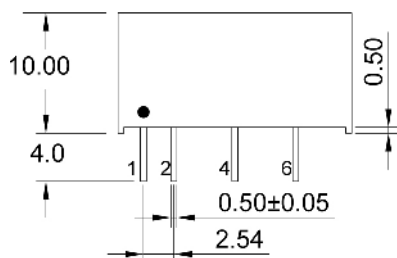
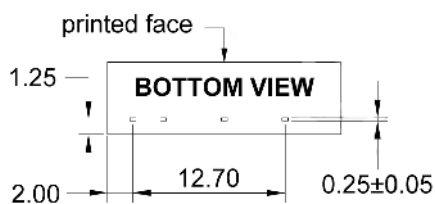
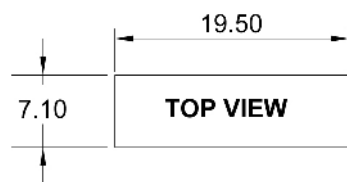
### Recommended test circuit



### EMC solution-recommended circuit



### Mechanical dimensions



Note:  
Unit: mm[inch]  
Unless otherwise specified,  
all tolerances:  $\pm 0.25$ mm

PIN connection:

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