GAPTEC®
GREEN TECHNOLOGY

1S7WA 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 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 is wide range (voltage range≤2:1)
2) Where isolation is necessary between input and output (isolation voltage ≤3000VDC);
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

Model selection:

WCTVP_xxyyN##O
W=Watt; **C=** Case; **T=**Type; **V=** Voltage Variation; **P=**Pinning; **xx=** Vin; **yy=** Vout; **N=** Numbers of Output; **##=** Isolation (kVDC); **O=** Output Regulation

Example:

1S7WA_0505S3RP
1= 1Watt; 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)

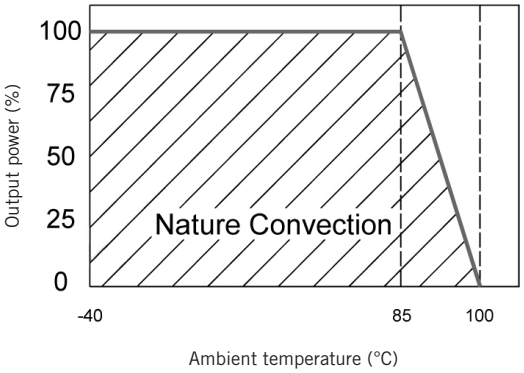
Note:
1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed.
2. All specifications measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
3. In this datasheet, all the test methods of indications are based on corporate standards.

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

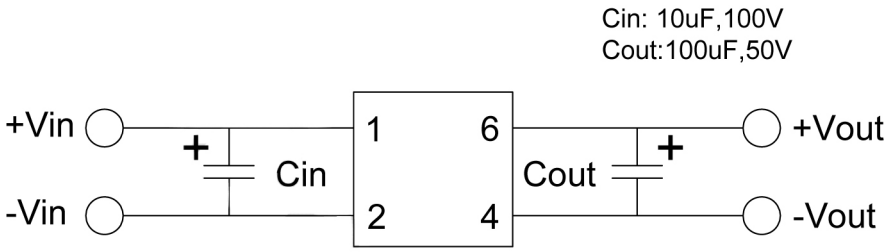
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Specifications subject to change without notice.

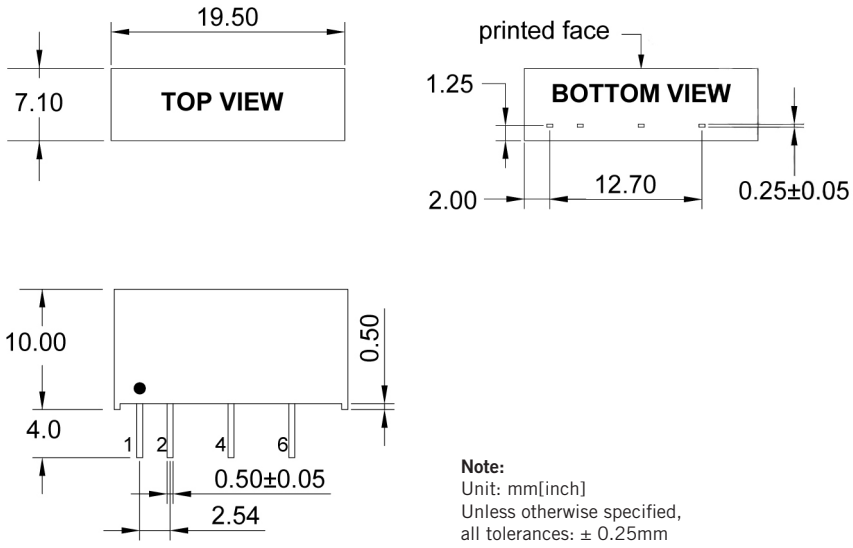
Derating graph



Recommended test circuit



Mechanical dimensions



Note:
Unit: mm[inch]
Unless otherwise specified,
all tolerances: ± 0.25mm

PIN connection:

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