



3S7W Series

3W - Single Output - Wide Input - Isolated & Regulated
 SIP Package

DC-DC Converter

3 Watt

- ⊕ High power density
- ⊕ Micro Size SIP7 Package (19.6*7.0*10.2mm)
- ⊕ 3W Single outputs
- ⊕ 2:1 Wide Input Voltage Ranges
- ⊕ Operating Temperature: -40°C to +85°C (with derating)
- ⊕ Short circuit protection (SCP)
- ⊕ 1KVDC Isolation
- ⊕ High Efficiency to 85%
- ⊕ RoHS Compliance
- ⊕ UL94-V0 Package

The 3S7W 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 $\leq 2:1$)
- 2) Where isolation is necessary between input and output (isolation voltage $\leq 1000\text{VDC}$);
- 3) Where the regulation of the output voltage and the output ripple noise are demanding.



Common specifications

Input voltage range:	2:1
Short circuit protection:	Continuous
Cooling:	Free air convection
Operation temperature range:	-40°C~+100°C (see graph)
Storage temperature range:	-55°C ~+125°C
Storage humidity range:	< 95%
Temperature coefficient:	0.03 %/°C MAX (full load)
Operating Frequency:	150kHz MIN / 600kHz MAX
Efficiency at Full Load:	77% MIN / 85% MAX
Case material:	Non-conductive black plastic UL94-V0
Potting material:	Epoxy UL94-V0
MTBF (MIL-HDBK 217F):	+25°C: 1809x10 ³ hours +85°C: 239x10 ³ hours
Weight:	3.1g

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 second		1000		VDC
Isolation resistance		15			GΩ
Isolation capacitance	Tested at 100kHz		40		pF

Output specifications

Item	Test condition	Min	Typ	Max	Units
Line regulation	Vin=MIN to MAX full load		±0.5		%
Load regulation	20% to 100% full load		±0.5		%
Output voltage accuracy			±2		%
Output ripple & noise	20MHz Bandwidth			60	mVp-p
No load power consumption		80		200	mW

Model selection:

WCTP_xxyyN##O**

W=Watt; **C**= Case; **T**=Type; **P**=Pinning; ******= Voltage Variation (omitted $\pm 10\%$); **xx**= Vin; **yy**= Vout; **N**= Numbers of Output; **##**= Isolation (kVDC); **O**= Output Regulation

Example:

3S7W_0505S1RP

3= 3Watt; **S7**= SIP7; **W**= Pinning; **5** Vin; **±5Vout**; **S**= Single output; **1**= 1000 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.

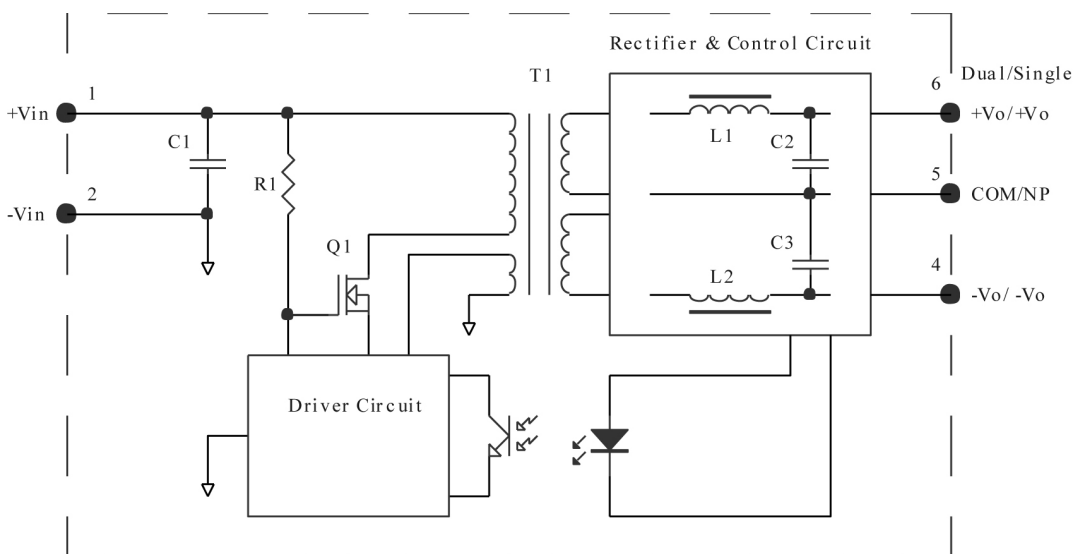
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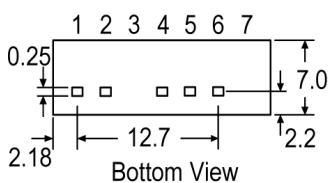
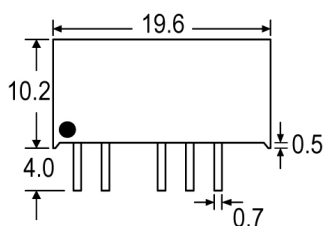
Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [mA]	Efficiency [%, max]	Max. Capacitive Load [μ F]
3S7W_xx03S1RP	9-18, 18-36, 36-75	3.3	600	77-80	1000
3S7W_xx05S1RP	9-18, 18-36, 36-75	5	600	78-82	1000
3S7W_xx09S1RP	9-18, 18-36, 36-75	9	333	78-83	680
3S7W_xx12S1RP	9-18, 18-36, 36-75	12	250	81-85	470
3S7W_xx15S1RP	9-18, 18-36, 36-75	15	200	81-85	470

- xx=Input Voltage (possible for other input and output voltage combinations on request)
 Vin=9-18V, xx=12
 Vin=18-36V, xx=24
 Vin=36-75V, xx=48

Functional block diagram



Mechanical dimensions/footprint

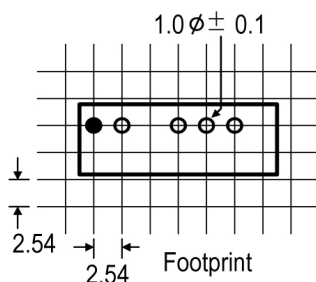


Note:
 Unit: mm[inch]
 Pin section tolerances: ± 0.15 mm
 General tolerances: ± 0.25 mm

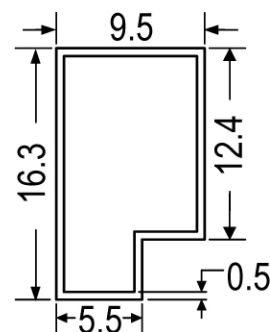
Pin Connections

Pin#	Single
1	+Vin
2	-Vin
3	NP
4	-Vout
5	NP
6	+Vout
7	NP

NP=No Pin



Tube outline



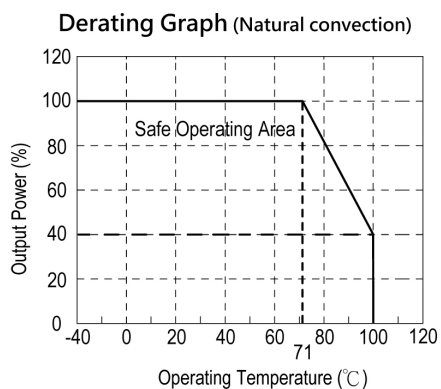
Note:
 Unit: mm[inch]
 General tolerances: ± 0.5 mm[± 0.020 inch]

L=520mm[20.866inch]
 Tube quantity: 25pcs

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Derating graph



Typical characteristics

