

3T16WE_1.5RP Series

3W - Single/Dual Output DC-DC Converter - Wide Input - Isolated & Regulated



DC-DC Converter

3 Watt

- ⊕ 2:1 Wide input voltage range
- ⊕ Operating temperature:
-40°C ~ +85°C
- ⊕ 1500VDC isolation
- ⊕ Internal SMD construction
- ⊕ MTBF>1,000,000 hours
- ⊕ No external component required
- ⊕ Short circuit protection (SCP)
- ⊕ Industry standard pinout
- ⊕ RoHS Compliance

The 3T16WE_1.5RP Series is specially designed for applications where a wide range input voltage 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 $\leq 1500\text{VDC}$);
- 3) Where the regulation of the output voltage and the output ripple noise are demanded.



Common specifications

Short circuit protection:	Continuous, automatic recovery
Filter:	Capacitor
Cooling:	Free air convection
Operation temperature range:	-40°C ~ +85°C
Storage temperature range:	-55°C ~ +125°C
Lead temperature:	300°C MAX, 1.5mm from case for 10 sec
Reflow Soldering Temperature:	Peak temp. $\leq 240^\circ\text{C}$, maximum duration time $\leq 60\text{s}$ at 217°C . For actual application, please refer to IPC/JEDEC J-STD-020D.1.
Storage humidity range:	< 95%
Case material:	DAP
MTBF:	>1,000,000 hours
Dimensions:	24.1x14.35x10.25mm
Weight:	3.9g

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute and 1mA max	1500			VDC
Isolation resistance	Test at 500VDC	1000			MΩ

Output specifications

Item	Test condition	Min	Typ	Max	Units
Voltage tolerance	100% full load			± 2	%
Line regulation	Regulated			± 0.5	%
Load regulation	Regulated			± 0.8	%
Transient response setting time	50% load step change		350		μs
Ripple & Noise	20MHz Bandwidth			100	mVp-p
Switching frequency	100% load, nominal input voltage		100		KHz

Example:

3T16WE_1205S1.5RP

3= 3Watt; T16= SMT16; W= Wide Input; E= Cost effective; 12Vin; 5Vout; S= Single Output; 1.5= 1.5kVDC; R= Regulated Output; P= Short Circuit Protection

Note:

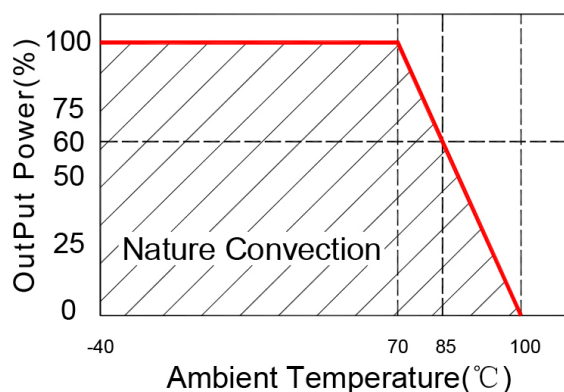
1. All specifications measured at $T_a=25^\circ\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. In this datasheet, all the test methods of indications are based on corporate standards.
3. Only typical models listed, other models may be different, please contact our technical person for more details.

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Part Number	Input Voltage [VDC]		Output Voltage [VDC]	Current [mA; max]	Efficiency [%; Max.]
	Nominal	Range			
3T16WE_0503S1.5RP	5	4.5-9	3.3	700	70
3T16WE_0505S1.5RP	5	4.5-9	5	600	75
3T16WE_0512S1.5RP	5	4.5-9	12	250	77
3T16WE_0515S1.5RP	5	4.5-9	15	200	75
3T16WE_1203S1.5RP	12	9-18	3.3	700	75
3T16WE_1205S1.5RP	12	9-18	5	600	79
3T16WE_1212S1.5RP	12	9-18	12	250	82
3T16WE_1215S1.5RP	12	9-18	15	200	82
3T16WE_2403S1.5RP	24	18-36	3.3	700	75
3T16WE_2405S1.5RP	24	18-36	5	600	80
3T16WE_2412S1.5RP	24	18-36	12	250	86
3T16WE_2415S1.5RP	24	18-36	15	200	87
3T16WE_4803S1.5RP	48	36-75	3.3	700	73
3T16WE_4805S1.5RP	48	36-75	5	600	78
3T16WE_4812S1.5RP	48	36-75	12	250	83
3T16WE_4815S1.5RP	48	36-75	15	200	83
3T16WE_0505D1.5RP	5	4.5-9	±5	±300	72
3T16WE_0512D1.5RP	5	4.5-9	±12	±125	74
3T16WE_0515D1.5RP	5	4.5-9	±15	±100	75
3T16WE_1205D1.5RP	12	9-18	±5	±300	72
3T16WE_1212D1.5RP	12	9-18	±12	±125	82
3T16WE_1215D1.5RP	12	9-18	±15	±100	80
3T16WE_2405D1.5RP	24	18-36	±5	±300	78
3T16WE_2412D1.5RP	24	18-36	±12	±125	82
3T16WE_2415D1.5RP	24	18-36	±15	±100	84
3T16WE_4805D1.5RP	48	36-75	±5	±300	78
3T16WE_4812D1.5RP	48	36-75	±12	±125	81
3T16WE_4815D1.5RP	48	36-75	±15	±100	82

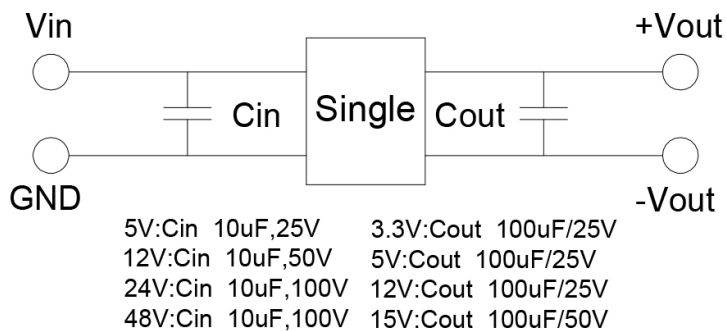
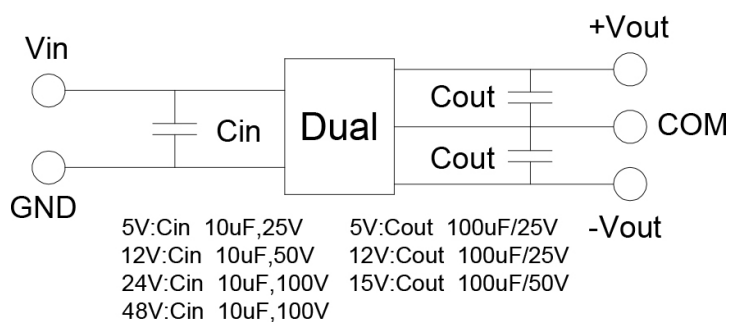
Typical characteristics



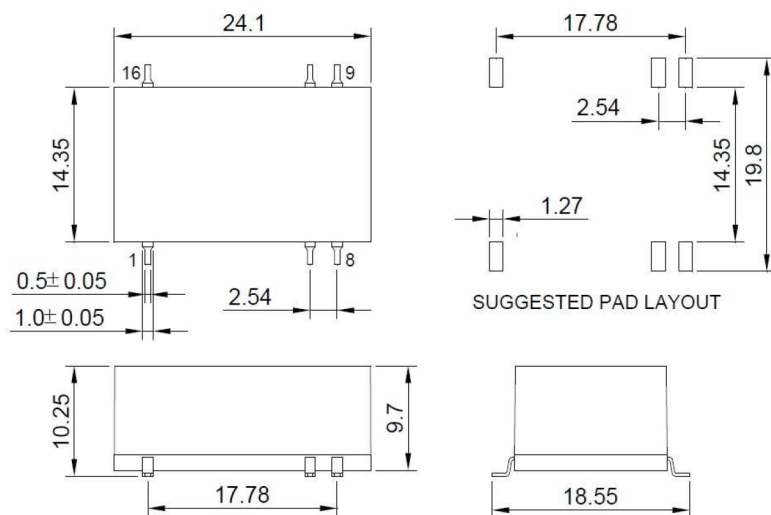
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Recommended circuit



Mechanical dimensions



Pin	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	NC	Com
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin