

1T16WE_1.5RP Series

1W - Single/Dual Output DC-DC Converter - Fixed Input - Isolated & Regulated



DC-DC Converter

1 Watt

- ⊕ Wide input range (2:1)
- ⊕ 16Pin SMD package
- ⊕ 1.5KVDC isolation
- ⊕ High efficiency up to 85%
- ⊕ RoHS Compliance
- ⊕ Short circuit protection (SCP)

- ⊕ Operating temperature range: -40°C ~ +85°C
- ⊕ International standard pinout
- ⊕ No external component required

The 1T16WE_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
Temperature rise at full load:	15°C TYP
Cooling:	Free air convection
Operation temperature range:	-40°C~+85°C
Storage humidity range:	< 95% non-condensing
Case material:	DAP
MTBF:	>1,000,000 hours
Weight:	3.9g
Dimensions:	24.1x14.35x10.25mm

Input specifications

Item	Test condition	Min	Typ	Max	Units
Input voltage range				2:1	
Input Filter	Capacitor				

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage		1500			VDC
Isolation resistance	500VDC	1000			MΩ

Output specifications

Item	Test condition	Min	Typ	Max	Units
Voltage tolerance				±2	%
Line regulation	Regulated			±0.5	%
Load regulation	Regulated			±0.8	%
Temperature drift	100% full load			±0.02	%/°C
Ripple & Noise	20MHz Bandwidth			60	mVp-p
Transient response setting time	50% load step change		350		μs
Switching frequency	Full load, nominal input		100		KHz

Example:

1T16WE_0515S1.5RP

1 = 1Watt; T16 = SMT16; W = Wide input; E = Cost effective; 5Vin; 15Vout; S = Single output; 1.5 = 1.5kVDC; R = Regulated output; P = Short circuit protection (SCP)

Note:

1. Unless otherwise specified, data in this data sheet should be tested under the conditions of $T_a=25^\circ\text{C}$, nominal input voltage and rated output current;
2. All index testing methods in this datasheet are based on our Company's corporate standards.

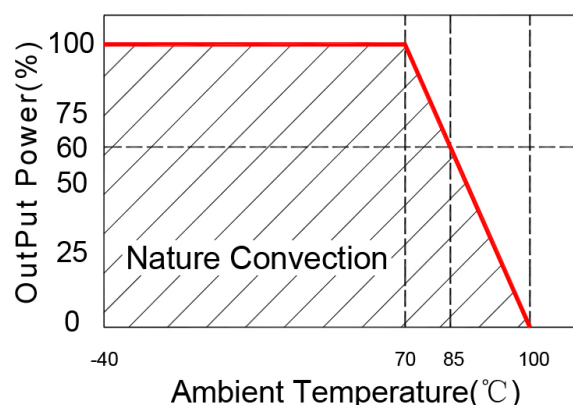
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Part Number	Input Voltage Range [V]	Output Voltage [VDC]	Output current [mA]	Efficiency [%; Typ]
1T16WE_0503S1.5RP	4.5-9	3.3	303	68
1T16WE_0505S1.5RP	4.5-9	5	200	71
1T16WE_0512S1.5RP	4.5-9	12	84	73
1T16WE_0515S1.5RP	4.5-9	15	67	71
1T16WE_1203S1.5RP	9-18	3.3	303	71
1T16WE_1205S1.5RP	9-18	5	200	75
1T16WE_1212S1.5RP	9-18	12	84	78
1T16WE_1215S1.5RP	9-18	15	67	78
1T16WE_2403S1.5RP	18-36	3.3	303	71
1T16WE_2405S1.5RP	18-36	5	200	78
1T16WE_2412S1.5RP	18-36	12	84	82
1T16WE_2415S1.5RP	18-36	15	67	83
1T16WE_4803S1.5RP	36-75	3.3	303	70
1T16WE_4805S1.5RP	36-75	5	200	74
1T16WE_4812S1.5RP	36-75	12	84	80
1T16WE_4815S1.5RP	36-75	15	67	80
1T16WE_0505D1.5RP	4.5-9	±5	±100	68
1T16WE_0512D1.5RP	4.5-9	±12	±42	70
1T16WE_0515D1.5RP	4.5-9	±15	±34	71
1T16WE_1205D1.5RP	9-18	±5	±100	71
1T16WE_1212D1.5RP	9-18	±12	±42	78
1T16WE_1215D1.5RP	9-18	±15	±34	76
1T16WE_2405D1.5RP	18-36	±5	±100	74
1T16WE_2412D1.5RP	18-36	±12	±42	78
1T16WE_2415D1.5RP	18-36	±15	±34	80
1T16WE_4805D1.5RP	36-75	±5	±100	74
1T16WE_4812D1.5RP	36-75	±12	±42	77
1T16WE_4815D1.5RP	36-75	±15	±34	78

Typical characteristics

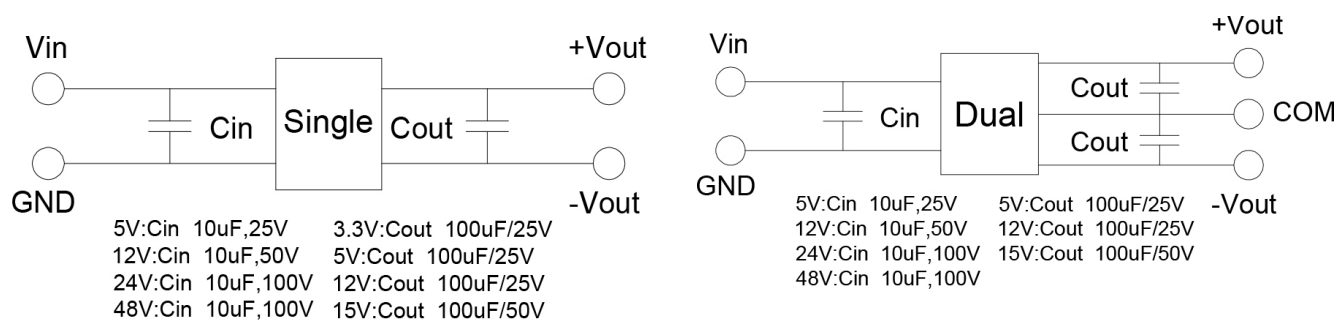
Temperature derating graph



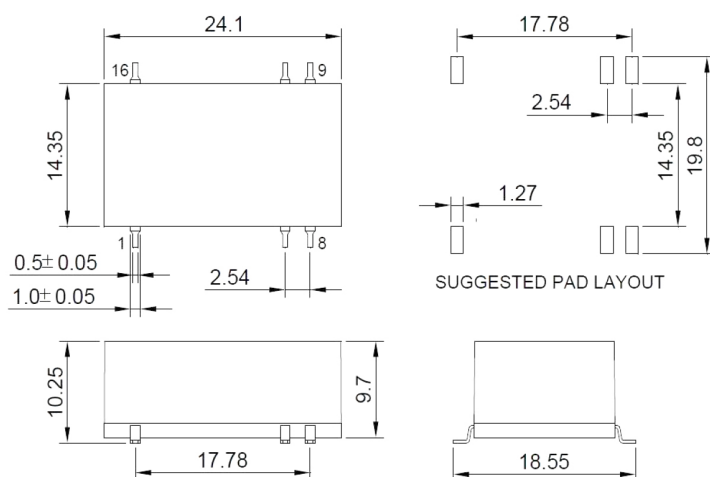
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Recommended test circuit



Mechanical dimensions



UNIT:mm Unless otherwise specified,all tolerances are ± 0.25

PIN	1	7	8	9	10	16
SINGLE	-Vin	NC	NC	+Vout	-Vout	+Vin
DUAL	-Vin	NC	Com	+Vout	-Vout	+Vin