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POWERBOX Industrial Line T8 Series 8W 2:1 Single and Dual Output DC/DC Converter



Features

No minimum load required
1600VDC input to output isolation
Standard 1.25 x 0.80 x 0.40 inch 24 pin DIP and SMD package
Remote control
Undervoltage, over current and short circuit protection
UL60950-1, EN60950-1, IEC60950-1 safety approvals
CE marked
Compliant to RoHS II and REACH

Input

Voltage range	12Vin(nom)	9-18VDC
	24Vin(nom)	18-36VDC
	48Vin(nom)	36-75VDC
Start up time	Power up	700ms max
	Remote ON/OFF	5ms max
	Constant resistive load	
Input surge voltage	12Vin(nom)	36VDC, 100ms max
	24Vin(nom)	50VDC, 100msmax
	48Vin(nom)	100VDC, 100ms max
Reflected ripple current	20mA p-p typ	
Input filter	Pi type	
Remote ON/OFF	Positive logic	
	DC-DC ON Open or 3.5~12VDC	
	DC-DC OFF Short or 0~1.2V	
	Input current of Ctrl pin	±0.5mA
	Remote off input current	2.5mA typ

Output

Voltage accuracy	±1.0%	
Line regulation	LL to HL at full load	±0.2%
Load regulation	No load to full load	
	DIP type:	
	Single	±0.5%
	Dual	±1.0%
	SMD type:	
	Single	±1.0%
Dual	±1.0%	
Cross regulation	Dual	±5.0%
	Asymmetrical load 25%/100% FL	
Ripple and noise	Measured by 20MHz BW	50mV p-p
Temperature coefficient	±0.02%/°C	
Transient response	25% load step change	200µs
Over load protection	150% of rated lout	
Short circuit protection	Continuous, automatic recovery	

Environmental

Operating ambient temp. 3.3Vout, ±5Vout:	-40°C to +70°C (without derating)	
	+70°C to +100°C (with derating)	
	Max case temperature	100°C
Storage temperature	-55°C to +125°C	
Thermal impedance	Natural convection	20°C/W
Thermal shock	MIL-STD-810F	
Vibration	MIL-STD-810F	
Relative humidity	5-95% RH	

General

Isolation voltage	DIP: Input to output, 1 min 1600VDC min	
	Input(output) to case	1600VDC min
	SMD: Input to output, 1 min 1600VDC min	
	Input(output) to case	1000VDC min
Isolation resistance	500VDC	1 GΩ min
Isolation capacitance	300pF typ	
Switching frequency	300KHz typ	
Case material	Nickel-coated copper	
Base material	Non-conductive black plastic	
Potting material	Epoxy (UL 94 V-0)	
Weight	18g	
MTBF	MIL-HDBK-217F	3.543 x 10 ⁶ h

Standards

Safety standards	UL60950-1, EN60950-1, IEC60950-1	
EMC specifications		
EMI ¹	EN55022 Class A, Class B	
Radiated immunity	EN61000-4-3, 10V/m Criteria A	
Fast transient ²	EN61000-4-4, ±2KV Criteria A	
Surge ²	EN61000-4-5, ±1KV Criteria A	
Conducted immunity	EN61000-4-6, 10 Vr.m.s Criteria A	

POWERBOX Industrial Line
PME8 Series
8W 2:1 Single and Dual Output
DC/DC Converter

Model Number	Input Range	Output Voltage	Output Current @Full Load	Input Current @No Load	Efficiency	Max Capacitor Load
PME08-12S33	9 ~ 18 VDC	3.3 VDC	2000 mA	10 mA	80%	3300 µF
PME08-12S05	9 ~ 18 VDC	5 VDC	1500 mA	15 mA	83%	1600 µF
PME08-12S12	9 ~ 18 VDC	12 VDC	666 mA	13 mA	88%	350 µF
PME08-12S15	9 ~ 18 VDC	15 VDC	533 mA	20 mA	87%	240 µF
PME08-12D05	9 ~ 18 VDC	±5 VDC	±800 mA	15 mA	83%	±1000 µF
PME08-12D12	9 ~ 18 VDC	±12 VDC	±333 mA	20 mA	87%	±160 µF
PME08-12D15	9 ~ 18 VDC	±15 VDC	±267 mA	20 mA	85%	±100 µF
PME08-24S33	18 ~ 36 VDC	3.3 VDC	2000 mA	10 mA	80%	3300 µF
PME08-24S05	18 ~ 36 VDC	5 VDC	1500 mA	30 mA	83%	1600 µF
PME08-24S12	18 ~ 36 VDC	12 VDC	666 mA	13 mA	86%	350 µF
PME08-24S15	18 ~ 36 VDC	15 VDC	533 mA	15 mA	85%	240 µF
PME08-24D05	18 ~ 36 VDC	±5 VDC	±800 mA	15 mA	82%	±1000 µF
PME08-24D12	18 ~ 36 VDC	±12 VDC	±333 mA	15 mA	86%	±160 µF
PME08-24D15	18 ~ 36 VDC	±15 VDC	±267 mA	13 mA	85%	±100 µF
PME08-48S33	36 ~ 75 VDC	3.3 VDC	2000 mA	7 mA	80%	3300 µF
PME08-48S05	36 ~ 75 VDC	5 VDC	1500 mA	8 mA	83%	1600 µF
PME08-48S12	36 ~ 75 VDC	12 VDC	666 mA	10 mA	86%	350 µF
PME08-48S15	36 ~ 75 VDC	15 VDC	533 mA	10 mA	86%	240 µF
PME08-48D05	36 ~ 75 VDC	±5 VDC	±800 mA	8 mA	85%	±1000 µF
PME08-48D12	36 ~ 75 VDC	±12 VDC	±333 mA	8 mA	87%	±160 µF
PME08-48D15	36 ~ 75 VDC	±15 VDC	±267 mA	7 mA	87%	±100 µF

Notes:

1. The standard modules meet EMI Class A or Class B with external components. For further information, please contact with Powerbox.
2. An external input filter capacitor is required if the module has to meet EN61000-4-4,

EN61000-4-5.

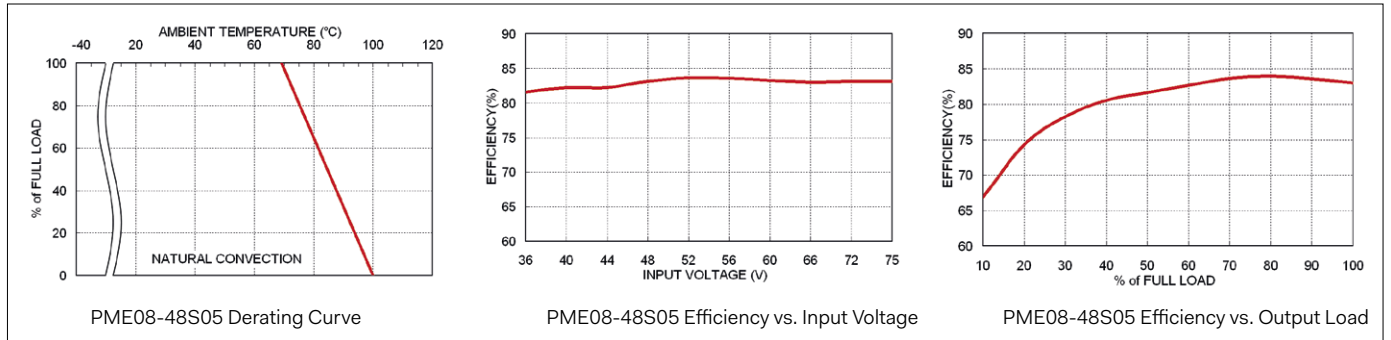
The filter Powerbox suggests: Nippon chemi-con KY series, 220µF/100V.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

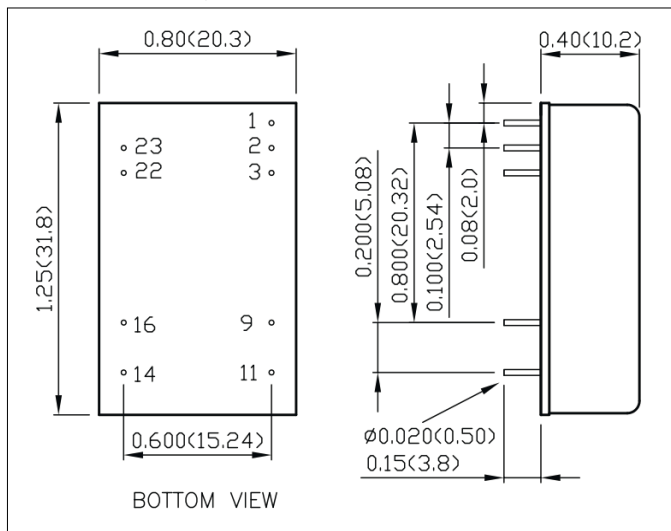
Part Number Structure

Series Name	Input Voltage	Output Quantity	Output Voltage	Mounting Type Option
PME08 - 48 S 05 - SMD	12: 9-18VDC 24: 18-36VDC 48: 36-75VDC	S: Single	05: 5VDC 12: 12VDC 15: 15VDC	□: DIP type SMD: SMD type
		D: Dual	05: ±5VDC 12: ±12VDC 15: ±15VDC	

Derating Curve



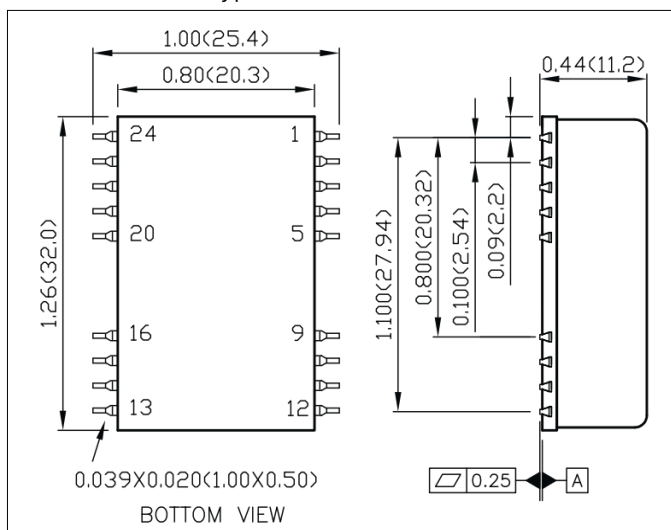
Mechanical DIP type



Pin Connection

Pin	Single	Dual	Pin	Single	Dual
1	Ctrl	Ctrl	23	+Vin	+Vin
2	-Vin	-Vin	22	+Vin	+Vin
3	-Vin	-Vin	16	-Vout	Common
9	NC	Common	14	+Vout	+Vout
11	NC	-Vout			

Mechanical SMD type



Pin Connection

Pin	Single	Dual	Pin	Single	Dual
1	Ctrl	Ctrl	23	+Vin	+Vin
2	-Vin	-Vin	22	+Vin	+Vin
3	-Vin	-Vin	16	-Vout	Common
9	NC	Common	14	+Vout	+Vout
11	NC	-Vout			
Others	NC	NC			

- All dimensions in inch (mm)
- Tolerance :x.xx±0.02 (x.x±0.5)
x.xxx±0.01 (x.xx±0.25)
- Pin pitch tolerance ±0.01 (0.25)
- Pin dimension tolerance ±0.004(0.1)

Specifications are subject to change without notice.