P44TG-xxxxE/Z2:1MLF

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PMU-SERIES Rev.11-2008

- ✓ 12 Watt
- ✓ Regulated
- ✓ **DIP24** Metal Case
- ✓ **1.5 kV** DC I/O Isolation
- ✓ **Single** and **Dual** Output
- ✓ Continuous Short Circuit Prot.
- ✓ Remote On / Off

The PMU series are cost effective 12 W single & dual output DC/DC converters. These converters are encapsulated in nickel-coated copper DIP24 case with high performance features: Synchronous rectification, high efficiency and tight line / load regulation.

All specifications typical at Ta=25℃, nominal input voltage and full load unless otherwise specified

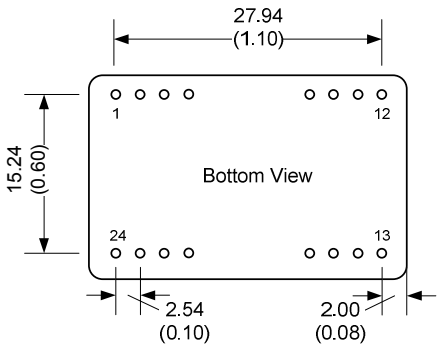
Input Specifications	
Voltage Range	2:1 Wide Input
Input Filter	Pi Type
Input Reflected Ripple Current	20 mA pk-pk
Output Specifications	
Voltage Accuracy	± 1.2%
Short Circuit Protection	Indefinite (hiccup / automatic recovery)
Over Current Protection	150% of FL, typ.
Line Regulation	± 0.5%, max.
Load Regulation (0% - 100%)	± 0.5%, max. (Single) / ± 1%, max. (Dual)
Cross Regulation (Dual Output)	± 5%
Ripple and Noise (20Mhz bandwidth)	85 mV pk-pk
Temperature Coefficient	± 0.02% / ℃
Transient Recovery Time[1]	250us, typ.
Transient Response Deviation[1]	± 3%, max.
General Specifications	
I/O Isolation Voltage (3 sec.)	1500 VDC
I/O Isolation Capacity	1200 pF, typ.
I/O Isolation Resistance	1000 M Ohm
Switching Frequency (typical)	330 kHz, typ.
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 1 Mhrs
Physical Specifications	
Case Material	Nickel Coated Copper
Potting Material	Epoxy (UL94V-0 rated)
Weight	~ 18.0g, typ.
Environment Specifications	
Operating Temperature	-40 to +60℃ (ambient)
Maximum Case Temperature	100℃
Storage Temperature	-40 to +125℃
Cooling	Free Air Convection
RoHS Conform	Soldering 260℃, max. (1.5mm from case 10s.)

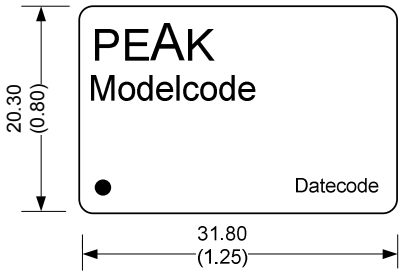
Selection Guide
Single/Dual Output

Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF)[2]
SINGLE OUTPUT								
P44TG-122R5E2:1MLF	9-18	15	889	2.5	0	3500	85	2000
P44TG-123R3E2:1MLF	9-18	15	1146	3.3	0	3500	87	2000
P44TG-1205E2:1MLF	9-18	15	1163	5	0	2400	89	2000
P44TG-1212E2:1MLF	9-18	15	1149	12	0	1000	90	430
P44TG-1215E2:1MLF	9-18	15	1149	15	0	800	90	300
P44TG-242R5E2:1MLF	18-36	15	445	2.5	0	3500	85	2000
P44TG-243R3E2:1MLF	18-36	15	573	3.3	0	3500	87	2000
P44TG-2405E2:1MLF	18-36	15	581	5	0	2400	89	2000
P44TG-2412E2:1MLF	18-36	15	575	12	0	1000	90	430
P44TG-2415E2:1MLF	18-36	15	575	15	0	800	90	300
P44TG-482R5E2:1MLF	36-75	15	225	2.5	0	3500	84	2000
P44TG-483R3E2:1MLF	36-75	15	283	3.3	0	3500	88	2000
P44TG-4805E2:1MLF	36-75	15	291	5	0	2400	89	2000
P44TG-4812E2:1MLF	36-75	15	294	12	0	1000	88	430
P44TG-4815E2:1MLF	36-75	15	291	15	0	800	89	300
DUAL OUTPUT								
P44TG-1212Z2:1MLF	9-18	15	1149	± 12	0	± 500	90	± 200
P44TG-1215Z2:1MLF	9-18	15	1136	± 15	0	± 400	91	± 120
P44TG-2412Z2:1MLF	18-36	15	575	± 12	0	± 500	90	± 200
P44TG-2415Z2:1MLF	18-36	15	562	± 15	0	± 400	91	± 120
P44TG-4812Z2:1MLF	36-75	15	294	± 12	0	± 500	88	± 200
P44TG-4815Z2:1MLF	36-75	15	291	± 15	0	± 400	89	± 120

If you need other specifications, please enquire.

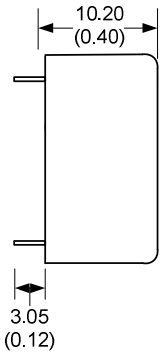
Package / Pinning / Derating



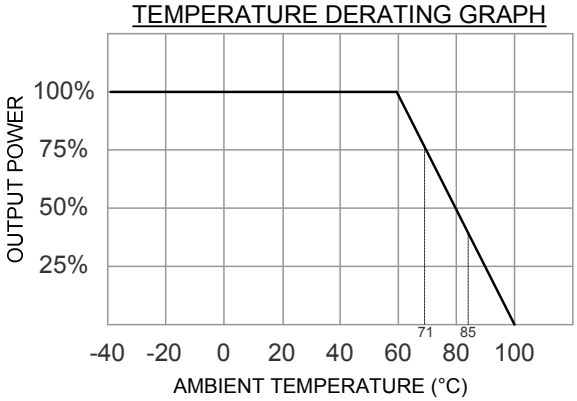


All dimensions are typical in millimeters (inches).
- Pin diameter: 0.5 +/-0.05 (0.02 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Standard Drawing
For exact pinning please see connection table!
Specification may change without notice.

DIP24 – METAL CASE



TEMPERATURE DERATING GRAPH



PIN CONNECTIONS		
#	SINGLE	DUAL
1	Ctrl. On/Off	Ctrl. On/Off
2	- Vin	- Vin
3	- Vin	- Vin
9	Omitted	Common
11	N.C.	- Vout
14	+Vout	+Vout
16	- Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

App Notes:

[1] = Tested by nominal Vin and 75% - 25% load, 25% load step change.
[2] = Tested by minimal Vin and constant resistive load.

Over Voltage Protection (Zender diode clamp)	
2.5 Vout, 3.3 Vout:	3.9 V
5 Vout	6.2 V
12 Vout	15 V
15 Vout	18 V
± 12 Vout	± 15 V
± 15 Vout	± 18 V

The Remote on/off controll:

ON:	3.0 … 12.0 VDC or open circuit
OFF:	0 - 1.2 VDC or short circuit PIN 1 and PIN 2 / 3
OFF idle current:	5.0 mA, typ.