P42TG-xxxxE/Z2:1MLF

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PMD-SERIES Rev.09-2010

- ✓ 10 Watt
- ✓ Regulated
- ✓ **Single** and **Dual** Output
- ✓ **1.5 kV** DC I/O Isolation
- ✓ **DIP24 Metal** Case
- ✓ Continuous Short Circuit Prot.
- ✓ Full SMD Technology

The PMD 10W series P42TG-xxxxE/Z2:1MLF is a family of cost effective 10W single & dual output DC-DC converters. These converters are encapsulated in miniature DIP24 metal case. High performance features: 1500VDC input/output isolation, continuous short circuit protection with automatic restart and tight line / load regulation, high efficiency operation, output voltage accuracy of ±1% maximum. And a wide input of 2:1

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[1]	20 mA pk-pk
Start Up Time (nom. Vin and constant resistive load)	20mS, typ.
Output Specifications	
Voltage Accuracy	± 1%
Short Circuit Protection	Indefinite (hiccup, automatic recovery)
Line Regulation[2]	± 0.5%
Load Regulation[3] (Io = 10 - 100%)	± 0.5% (2.5, 3.3Vout Models: ± 0.7%)
Cross Regulation[3] (Dual Output)	± 5%
Over Current Protection	150% of FL, typ.
Ripple and Noise (20Mhz bandwidth)	75 mV pk-pk
Temperature Coefficient	± 0.02% / ℃
Transient Recovery Time[4]	200us, typ
Transient Response Deviation[4]	± 3%, max.
General Specifications	
Efficiency	See Table
I/O Isolation Voltage (3 sec.)	1500 VDC
I/O Isolation Capacity	1000 pF, typ.
I/O Isolation Resistance	1000 MOhm
Switching Frequency (typical)	330 kHz
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	~ 17.0g, typ.
Environment Specifications	
Operating Temperature	-40 to +60℃ (ambient)
Maximum Case Temperature	100℃
Storage Temperature	-40 to +125℃
Cooling	Free Air Convection (10mm distance required)
RoHS Conform	Soldering 260℃, max. (1.5mm from case 10s.)

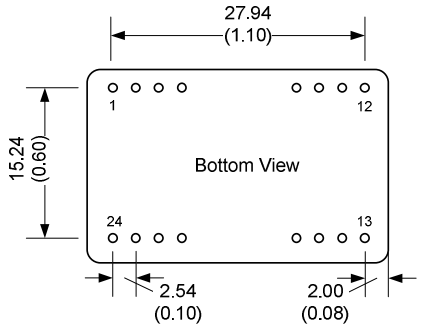
Selection Guide
Single/Dual Output

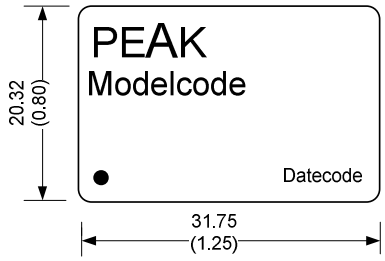
Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF)[5]
SINGLE OUTPUT								
P42TG-122R5E2:1MLF	9-18	10	791	2.5	0	3000	81	2200
P42TG-123R3E2:1MLF	9-18	10	1006	3.3	0	3000	84	2200
P42TG-1205E2:1MLF	9-18	10	992	5	0	2000	86	2200
P42TG-1212E2:1MLF	9-18	10	980	12	0	833	87	820
P42TG-1215E2:1MLF	9-18	10	958	15	0	667	89	470
P42TG-242R5E2:1MLF	18-36	10	381	2.5	0	3000	84	2200
P42TG-243R3E2:1MLF	18-36	10	497	3.3	0	3000	85	2200
P42TG-2405E2:1MLF	18-36	10	479	5	0	2000	89	2200
P42TG-2412E2:1MLF	18-36	10	485	12	0	833	88	820
P42TG-2415E2:1MLF	18-36	10	485	15	0	667	88	470
P42TG-482R5E2:1MLF	36-75	10	191	2.5	0	3000	84	2200
P42TG-483R3E2:1MLF	36-75	10	249	3.3	0	3000	85	2200
P42TG-4805E2:1MLF	36-75	10	242	5	0	2000	88	2200
P42TG-4812E2:1MLF	36-75	10	245	12	0	833	87	820
P42TG-4815E2:1MLF	36-75	10	242	15	0	667	88	470
DUAL OUTPUT								
P42TG-1212Z2:1MLF	9-18	10	980	± 12	0	± 416	87	± 220
P42TG-1215Z2:1MLF	9-18	10	969	± 15	0	± 333	88	± 150
P42TG-2412Z2:1MLF	18-36	10	485	± 12	0	± 416	88	± 220
P42TG-2415Z2:1MLF	18-36	10	474	± 15	0	± 333	90	± 150
P42TG-4812Z2:1MLF	36-75	10	245	± 12	0	± 416	87	± 220
P42TG-4815Z2:1MLF	36-75	10	245	± 15	0	± 333	87	± 150

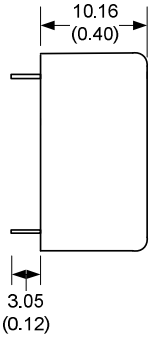
If you need other specifications, please enquire.

Notes:

Package / Pinning / Derating



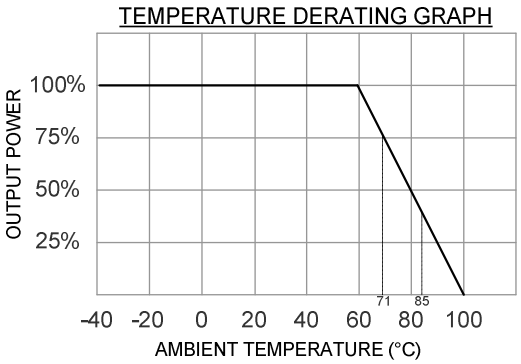




All dimensions are typical in millimeters (inches).
- Pin diameter: 0.5 +/-0.05 (0.02 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Standard Drawing
For exact pinning please see connection table!
Specification may change without notice.

DIP24 – METAL CASE

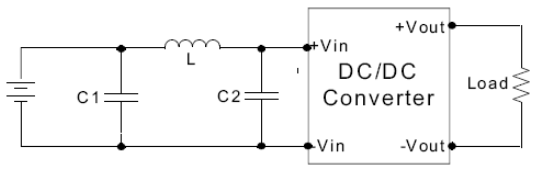
TEMPERATURE DERATING GRAPH



PIN CONNECTIONS		
#	SINGLE	DUAL
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
others	Omitted	Omitted

App Notes:

1 = Measured Input reflected ripple current with a simulated source inductance of 12uH.
2 = Operation between no load and 10% load conditions will not demage the module, but it may not meet all specifications listed
3 = One load is 25% - 100%, the other load is 100%, the output voltage variable rate is within ± 5%
4 = Tested by nominal Vin and 25% load step change (75% - 50% - 25% of Io)
5 = Tested by minimal Vin and constant resistor load.
6 = Input filter components (C1,L) are used to help meet conducted emissions requirement for the module. These components should be mounted as close as possible to the module; all leads should be minimized to decrease radiated noise.
7 = An external filter capacitor (e.g. Nippon-chemi-con KY ser. 220uF/100V) is required if the module has to meet EN61000-4-5.



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

EMC SPECIFICATIONS		
Radiated Emissions	EN 55022	CLASS A
Conducted Emissions[6]	EN55022	CLASS A
ESD	IEC 61000-4-2	Perf. Criteria B
RS	IEC 61000-4-3	Perf. Criteria A
EFT	IEC 61000-4-4	Perf. Criteria B
Surge [7]	IEC 61000-4-5	Perf. Criteria B
CS	IEC 61000-4-6	Perf. Criteria A
PFMF	IEC 61000-4-8	Perf. Criteria A