P18TG-xxxxE/Z4:1(H35)MLF

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PMQ-SERIES Rev.09-2009

- ✓ 4 Watt
- ✓ **4:1 Ultra Wide** Input
- ✓ Regulated
- ✓ **Single** and **Dual** Output
- ✓ **1.5 to 3.5 kV** DC I/O Isolation
- ✓ **DIP24 Metal** Case
- ✓ Continuous Short Circuit Prot.

The PMQ series P18TG-xxxxE/Z4:1(H35)MLF is a family of cost effective 4W, single & dual output DC-DC converters with a ultra wide input range of 4:1. These converters are encapsulated in DIP24 metal case with high performance features: 1500 to 3500VDC input/output isolation voltage, continuous short circuit protection with automatic restart and tight line / load regulation, high efficiency operation and output voltage accuracy of ±1% maximum.

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

Input Specifications	
Voltage Range	4:1 Ultra Wide Input
Input Filter	Pi Type
Input Reflected Ripple Current[1]	35 mA pk-pk
Output Specifications	
Voltage Accuracy	± 1%
Short Circuit Protection	Indefinite (automatic recovery)
Line Regulation	± 0.5%
Load Regulation	± 0.5% (3.3 / ± 3.3Vout Models: ± 1.5%)
Ripple and Noise (20Mhz bandwidth)	60 mV pk-pk
Temperature Coefficient	± 0.02% / ℃
General Specifications	
Efficiency	See Table
I/O Isolation Voltage (3 sec.)	1500 VDC (3500 VDC optional)*
I/O Isolation Capacity	470 pF, typ.
I/O Isolation Resistance	1000 MOhm
Switching Frequency (typical)	266 kHz
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 1.121 Mhrs
Physical Specifications	
Case Material	Nickel Coated Copper
Potting Material	Epoxy (UL94V-0 rated)
Weight	~ 17g, typ.
Environment Specifications	
Operating Temperature	-40 to +85℃ (ambient)
Maximum Case Temperature	100℃
Storage Temperature	-40 to +125℃
Cooling	Free Air Convection
RoHS Conform	Soldering 260℃, max. (1.5mm from case 10s.)

Specification can change without a notice – We accept no liability for any inaccuracy or printing errors.

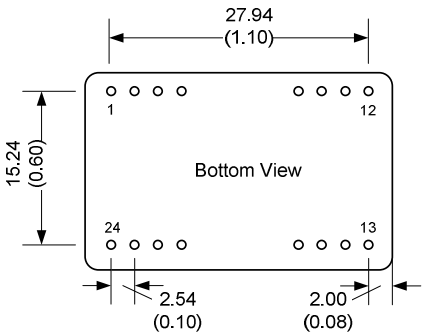
Selection Guide
Single/Dual Output

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								
P18TG-243R3E4:1MLF	9-36	18	222	3.3	0	1200	75	1000
P18TG-2405E4:1MLF	9-36	18	210.9	5	0	800	79	680
P18TG-2409E4:1MLF	9-36	18	208.3	9	0	444	80	100
P18TG-2412E4:1MLF	9-36	18	205.8	12	0	333	81	100
P18TG-2415E4:1MLF	9-36	18	203.3	15	0	266	82	68
P18TG-2424E4:1MLF	9-36	18	208.3	24	0	166	80	47
P18TG-483R3E4:1MLF	18-72	15	110	3.3	0	1200	75	1000
P18TG-4805E4:1MLF	18-72	15	105.5	5	0	800	79	680
P18TG-4809E4:1MLF	18-72	15	104.2	9	0	444	80	100
P18TG-4812E4:1MLF	18-72	15	102.8	12	0	333	81	100
P18TG-4815E4:1MLF	18-72	15	101.6	15	0	266	82	68
P18TG-4824E4:1MLF	18-72	15	104.2	24	0	166	80	47
DUAL OUTPUT								
P18TG-243R3Z4:1MLF	9-36	18	222	± 3.3	0	± 606	75	± 470
P18TG-2405Z4:1MLF	9-36	18	210.9	± 5	0	± 400	79	± 330
P18TG-2409Z4:1MLF	9-36	18	208.3	± 9	0	± 222	80	± 47
P18TG-2412Z4:1MLF	9-36	18	205.8	± 12	0	± 166	81	± 47
P18TG-2415Z4:1MLF	9-36	18	203.3	± 15	0	± 133	82	± 33
P18TG-2424Z4:1MLF	9-36	18	208.3	± 24	0	± 83	80	± 22
P18TG-483R3Z4:1MLF	18-72	15	110	± 3.3	0	± 606	75	± 470
P18TG-4805Z4:1MLF	18-72	15	105.5	± 5	0	± 400	79	± 330
P18TG-4809Z4:1MLF	18-72	15	104.2	± 9	0	± 222	80	± 47
P18TG-4812Z4:1MLF	18-72	15	102.8	± 12	0	± 166	81	± 47
P18TG-4815Z4:1MLF	18-72	15	101.6	± 15	0	± 133	82	± 33
P18TG-4824Z4:1MLF	18-72	15	104.2	± 24	0	± 83	80	± 22

If you need other specifications, please enquire.

*** For optional 3.5kV DC I/O Isolation, please add "H35" before MLF!**
→ Example: P18TG-1205Z4:1H35MLF for 3.5kV

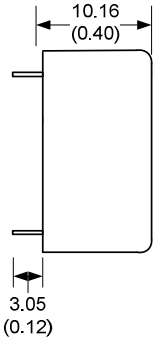
Package / Pinning / Derating

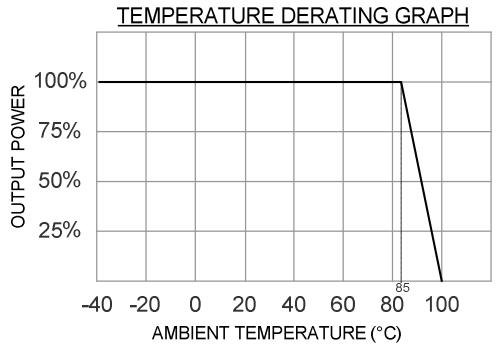


All dimensions are typical in millimeters (inches).
- Pin diameter: 0.5 +/-0.05 (0.02 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)

Standard Drawing
For exact pinning please see connection table!
Specification may change without notice.

DIP24 – METAL CASE





PIN CONNECTIONS				
#	Single **1.5kV**	Dual **1.5kV**	Single **3.5kV**	Dual **3.5kV**
1	+Vin	+Vin	Omitted	Omitted
2	N.C.	- Vout	- Vin	- Vin
3	N.C.	Common	- Vin	- Vin
9	Omitted	Omitted	Omitted	Common
10	- Vout	Common	Omitted	Omitted
11	+Vout	+Vout	N.C.	- Vout
12	- Vin	- Vin	Omitted	Omitted
13	- Vin	- Vin	Omitted	Omitted
14	+Vout	+Vout	+Vout	+Vout
15	- Vout	Common	Omitted	Omitted
16	Omitted	Omitted	- Vout	Common
22	N.C.	Common	+Vin	+Vin
23	N.C.	- Vout	+Vin	+Vin
24	+Vin	+Vin	Omitted	Omitted

App Notes:

[1] = Measured Input reflected ripple current with a simulated source inductance of 12uH.
[2] = Tested by nominal Vin and constant resistor load.