

## PM600 SERIES

### Single and Dual Output

- 24-Pin DIP Package
- Regulated Outputs
- Pi Input Filter
- 20 mV P-P Ripple and Noise
- 300 VDC Isolation
- Short Circuit Protection

The PM 600 Series is a broad line of low-cost, high-performance single and dual output DC/DC converters packaged in an IC-compatible 24-pin DIP configuration. These ultra-miniature converters are ideal for use on high-density PC boards, or wherever low-power, isolated and regulated outputs are required. A self-contained input Pi network filter, available on all models, minimizes reflected ripple current for critical applications. This feature eliminates the need for external filters, reducing overall system costs and leaving more room for other required components. The units maintain tight regulation for input voltage variations of  $\pm 10$  percent, and they require no derating over specified operating temperature range. Other pertinent specifications include: Line regulation,  $\pm 0.3\%$ ; load regulation,  $\pm 0.4\%$ ; output voltage accuracy,  $\pm 5\%$ ; ripple and noise, 20 mV P-P; efficiency, 50%; isolation, 300 VDC; temperature coefficient,  $\pm .01\%/^{\circ}\text{C}$ ; and  $1.25 \times 0.8 \times 0.4$  inch case dimensions.

**STOCKED BY YOUR LOCAL DISTRIBUTOR**  
See list on pages 175 & 176

**COMPUTER  
PRODUCTS™**  
POWER PRODUCTS DIVISION  
(305) 974-2442

## SPECIFICATIONS

All Specifications Typical at Nominal Line, Full Load, and 25°C Unless Otherwise Noted.

### OUTPUT SPECIFICATIONS

Voltage Accuracy .....  $\pm 5\%$ , max.  
Voltage Balance, Dual Output ..... See Note  
Temperature Coefficient .....  $\pm .01\%/^{\circ}\text{C}$   
Ripple and Noise<sup>1</sup>, 20 MHz BW ... 20 mV P-P, max.  
Overshoot, 10% Load to 90% Load .....  $\pm 0.1\%$   
Warm-Up Drift, 30 Minutes .....  $\pm 0.2\%$   
Short Circuit Protection ..... Continuous  
Short Circuit Restart ..... Automatic

### INPUT SPECIFICATIONS

Input Voltage Range  
5 VDC Input Models ..... 4.5 VDC to 5.5 VDC  
12 VDC Input Models ... 10.8 VDC to 13.2 VDC  
Input Filter, Filtered Models Only ..... Pi Network  
Fault Mode Current . 150% of FL Input Current, max.

### GENERAL SPECIFICATIONS

Efficiency ..... 50%  
Isolation Voltage ..... 300 VDC, min.  
Isolation Capacitance ..... 80 pF  
Isolation Resistance .....  $10^9$  ohms  
Switching Frequency ..... 40 kHz to 70 kHz

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range ...  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$   
Derating ..... None  
Storage Temperature Range ...  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$   
Humidity, Non-Condensing ..... 20% to 95% RH  
Cooling ..... Free-Air Convection

### PHYSICAL SPECIFICATIONS

Weight ..... 0.5 oz. (14 grams)  
Case Material ..... Non-Conductive Black Plastic

#### NOTE:

1. 15  $\mu\text{F}$  Tantalum Capacitor Across Each Output.

**TWO-YEAR WARRANTY**



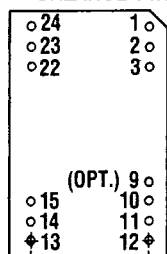
# 0.5 and 1 Watt DC/DC Converters

T-57-11

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		REFLECTED RIPPLE CURRENT	REGULATION		ALT <sup>1</sup> PIN OUT	CASE	MODEL NUMBER
			NO LOAD	FULL LOAD		LINE	LOAD			
WITH INPUT FILTER										
5 VDC	5 VDC	100 mA	65 mA	260 mA	15 mA P-P	±0.3%	±0.4%	P,R P,R	F	PM621
5 VDC	12 VDC	80 mA	90 mA	380 mA	15 mA P-P	±0.3%	±0.4%		F	PM623
5 VDC	15 VDC	65 mA	90 mA	380 mA	15 mA P-P	±0.3%	±0.4%		F	PM624
5 VDC	±12 VDC	±40 mA	90 mA	380 mA	15 mA P-P	±0.3%	±0.4%		F	PM671
5 VDC	±15 VDC	±33 mA	90 mA	380 mA	15 mA P-P	±0.3%	±0.4%		F	PM672
12 VDC	5 VDC	100 mA	20 mA	100 mA	45 mA P-P	±0.3%	±0.4%	P,R P,R	F	PM631
12 VDC	12 VDC	80 mA	28 mA	145 mA	45 mA P-P	±0.3%	±0.4%		F	PM633
12 VDC	15 VDC	65 mA	28 mA	145 mA	45 mA P-P	±0.3%	±0.4%		F	PM634
12 VDC	±12 VDC	±40 mA	28 mA	145 mA	45 mA P-P	±0.3%	±0.4%		F	PM681
12 VDC	±15 VDC	±33 mA	28 mA	145 mA	45 mA P-P	±0.3%	±0.4%		F	PM682
WITHOUT INPUT FILTER										
5 VDC	5 VDC	100 mA	65 mA	260 mA	1500 mA P-P	±0.3%	±0.4%	P,R P,R	F	PM641
5 VDC	12 VDC	80 mA	90 mA	380 mA	1500 mA P-P	±0.3%	±0.4%		F	PM643
5 VDC	15 VDC	65 mA	90 mA	380 mA	1500 mA P-P	±0.3%	±0.4%		F	PM644
5 VDC	±12 VDC	±40 mA	90 mA	380 mA	1500 mA P-P	±0.3%	±0.4%		F	PM691
5 VDC	±15 VDC	±33 mA	90 mA	380 mA	1500 mA P-P	±0.3%	±0.4%		F	PM692
12 VDC	5 VDC	100 mA	20 mA	100 mA	1500 mA P-P	±0.3%	±0.4%	P,R P,R	F	PM646
12 VDC	12 VDC	80 mA	28 mA	145 mA	1500 mA P-P	±0.3%	±0.4%		F	PM648
12 VDC	15 VDC	65 mA	28 mA	145 mA	1500 mA P-P	±0.3%	±0.4%		F	PM649
12 VDC	±12 VDC	±40 mA	28 mA	145 mA	1500 mA P-P	±0.3%	±0.4%		F	PM696
12 VDC	±15 VDC	±33 mA	28 mA	145 mA	1500 mA P-P	±0.3%	±0.4%		F	PM697

NOTE: 1. Dual output models are available with an optional output voltage balance pin, and are designated by suffix letter "P". For connection information, see drawing. In addition, dual output models are available with alternate pin-out (including balance pin) designated by suffix letter "R". See case drawing.

## BALANCE PIN CONNECTION



Connect  $R_1$  as required to balance outputs when  $|+V_{out}| > |-V_{out}|$ .

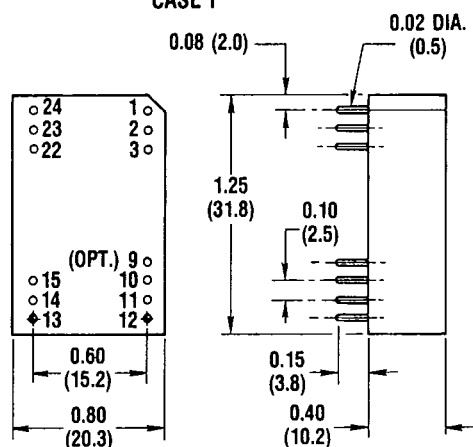
Connect  $R_2$  as required to balance outputs when  $|-V_{out}| > |+V_{out}|$ .

Input to balance pin:  $\pm 5$  mA, max.  $R_1$  or  $R_2$ :  $3K\Omega$ , min.

Pin Connections			
Pin No.	Single Output Models	Dual Output Models	Alternate Pin-Out Suffix R (Dual Output Only)
1	+V Input	+V Input	+V Input
2	Do Not Connect	-V Output	+V Input
3	Do Not Connect	Common	+V Input
9	-V Output	Balance (Opt)* Common	Common
10	+V Output	+V Output	Common
11	-V Output	-V Output	Do Not Connect
12	-V Output	-V Output	-V Output
13	-V Input	-V Input	-V Output
14	+V Output	+V Output	Balance
15	-V Output	Common	+V Output
22	Do Not Connect	Common	-V Input
23	Do Not Connect	-V Output	-V Input
24	+V Input	+V Input	-V Input

\*Suffix "P" Models Only

## CASE F



ALL DIMENSIONS IN INCHES (mm)