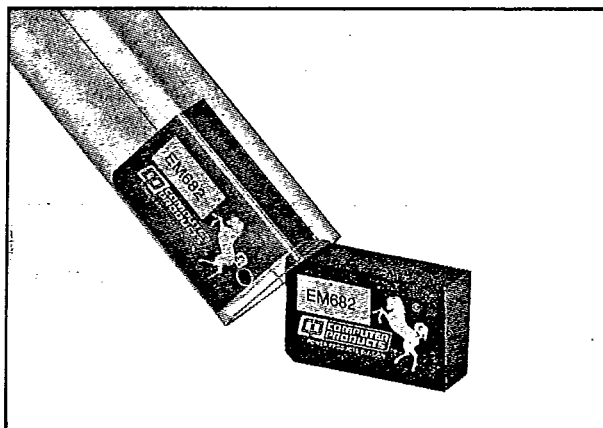


T-57-11



EM600 SERIES

Single and Dual Output

- 70% Efficiency
- Unregulated Outputs
- 300V Isolation
- 24-Pin DIP Package
- No Derating
- Short Circuit Protection

This series of low cost, unregulated DC/DC converters comes in ultra-miniature 24-Pin DIP packages. Ten different models are available with or without a Pi network input filter that suppresses input reflected ripple current. The units feature 5V output at 1 watt, and 12V, 15V, $\pm 12V$, and $\pm 15V$ outputs at 1.5 watts; input voltages are either 5V or 12V with $\pm 10\%$ input range. These DC/DC converters are ideal for high density PC board applications where space is at a premium and where high efficiency is more important than line and load regulation. Pertinent specifications include 70% efficiency, $\pm 3\%$ output voltage accuracy, 100 mV P-P output ripple and noise, and 300 VDC Isolation. Switching frequency is 35 kHz to 60 kHz and operating temperature range is -25°C to $+71^{\circ}\text{C}$ with no output derating. The case size is $1.25 \times 0.8 \times 0.4$ inches.

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 $\pm 3.0\%$, max.
Ripple and Noise¹, 20 MHz BW. . . 100 mV P-P, max.
Short Circuit Protection..... Short Term

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

GENERAL SPECIFICATIONS

Efficiency 60-80%
Isolation Voltage..... 300 VDC, min.
Isolation Capacitance..... 80 pF
Isolation Resistance..... 10^9 ohms
Switching Frequency 35 kHz to 60 kHz

ENVIRONMENTAL SPECIFICATIONS

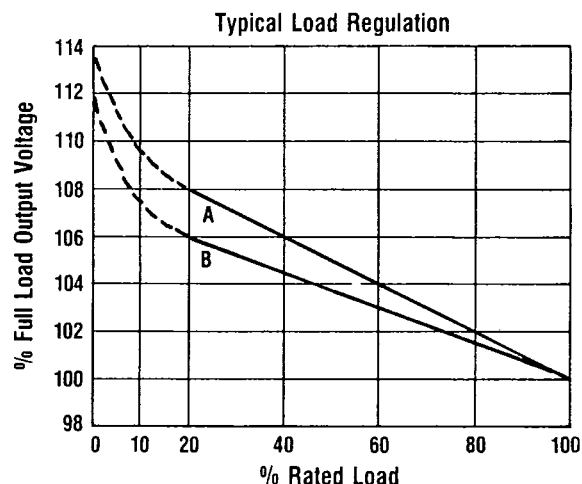
Operating Temperature Range ... -25°C to $+71^{\circ}\text{C}$
Derating None
Storage Temperature Range ... -40°C to $+125^{\circ}\text{C}$
Humidity, Non-Condensing 20% to 95% RH
Cooling..... Free-Air Convection

PHYSICAL SPECIFICATIONS

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

NOTE:

1. 15 μF , 35V Tantalum Capacitor Across Each Output.



Line A—EM621, EM641
Line B—All Other Models

TWO-YEAR WARRANTY



T-57-11

1 and 1.5 Watt DC/DC Converters

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		REFLECTED RIPPLE CURRENT	REGULATION ¹		CASE	MODEL NUMBER
			NO LOAD	FULL LOAD		LINE	LOAD		
WITH INPUT FILTER									
5 VDC	5 VDC	220 mA	115 mA	345 mA	90 mA P-P	1.2%	8%	F	EM621
5 VDC	12 VDC	125 mA	115 mA	450 mA	90 mA P-P	1.2%	6%	F	EM623
5 VDC	15 VDC	100 mA	115 mA	450 mA	90 mA P-P	1.2%	6%	F	EM624
5 VDC	± 12 VDC	± 62 mA	115 mA	450 mA	90 mA P-P	1.2%	6%	F	EM671
5 VDC	± 15 VDC	± 50 mA	115 mA	450 mA	90 mA P-P	1.2%	6%	F	EM672
12 VDC	5 VDC	220 mA	45 mA	125 mA	90 mA P-P	1.2%	6%	F	EM631
12 VDC	12 VDC	125 mA	45 mA	170 mA	90 mA P-P	1.2%	6%	F	EM633
12 VDC	15 VDC	100 mA	45 mA	170 mA	90 mA P-P	1.2%	6%	F	EM634
12 VDC	± 12 VDC	± 62 mA	45 mA	170 mA	90 mA P-P	1.2%	6%	F	EM681
12 VDC	± 15 VDC	± 50 mA	45 mA	170 mA	90 mA P-P	1.2%	6%	F	EM682
WITHOUT INPUT FILTER									
5 VDC	5 VDC	220 mA	115 mA	345 mA	2000 mA P-P	1.2%	8%	F	EM641
5 VDC	12 VDC	125 mA	115 mA	450 mA	2000 mA P-P	1.2%	6%	F	EM643
5 VDC	15 VDC	100 mA	115 mA	450 mA	2000 mA P-P	1.2%	6%	F	EM644
5 VDC	± 12 VDC	± 62 mA	115 mA	450 mA	2000 mA P-P	1.2%	6%	F	EM691
5 VDC	± 15 VDC	± 50 mA	115 mA	450 mA	2000 mA P-P	1.2%	6%	F	EM692
12 VDC	5 VDC	220 mA	45 mA	125 mA	1000 mA P-P	1.2%	6%	F	EM646
12 VDC	12 VDC	125 mA	45 mA	170 mA	1000 mA P-P	1.2%	6%	F	EM648
12 VDC	15 VDC	100 mA	45 mA	170 mA	1000 mA P-P	1.2%	6%	F	EM649
12 VDC	± 12 VDC	± 62 mA	45 mA	170 mA	1000 mA P-P	1.2%	6%	F	EM696
12 VDC	± 15 VDC	± 50 mA	45 mA	170 mA	1000 mA P-P	1.2%	6%	F	EM697

NOTE: 1. Line regulation is per 1.0% change in input voltage.
Load regulation is for load change from 100% to 20%.
See graph of load regulation.

Pin Connections		
Pin	Single Output	Dual Output
1	+V Input	+V Input
2	Do Not Connect	-V Output
3	Do Not Connect	Common
10	-V Output	Common
11	+V Output	+V Output
12	-V Input	-V Input
13	-V Input	-V Input
14	+V Output	+V Output
15	-V Output	Common
22	Do Not Connect	Common
23	Do Not Connect	-V Output
24	+V Input	+V Input

ALL DIMENSIONS IN INCHES (mm)

