UM800 SERIES

15 Watt DC-DC Converters

- **4:1 Input Range**
- **15W Isolated Output**
- **Efficiency to 80%**
- **Remote On/Off Control**
- **100 KHz Switching Frequency**
- **Six-Sided Shield**

SPECIFICATIONS

All specifications are typical at nominal line, full load and 25°C unless otherwise noted.

INPUT SPECIFICATIONS

Input Voltage Range, 24V 9-36V
48V 18-72V
Input Filter ..... Pi Network
Reverse Voltage Protection[1] ..... Internal Shunt Diode
Use External Fuse

OUTPUT SPECIFICATIONS

Voltage Accuracy, Single Output ..... ±1% max.
Dual + Output ..... ±1% max.
- Output ..... ±3% max.
Triple, 5V ..... ±2% max.
±12V/15V ..... ±3% max.
Voltage Balance, Dual Output at Full Load ..... ±1.0% max.
Transient Response
Single, 25% Step Load Change ..... <500µsec.
Dual,FL-1/2L,±1% Error Band ..... <500µsec.
External Trim Adj, Range ..... ±10%
Ripple and Noise, 20MHz BW ..... 10mV RMS max.
75mV P-P max.
Temperature Coefficient ..... ±0.02%°C max.
Short Circuit Protection ..... Continuous.
Overvoltage Protection, 5V 6.8V
12V 15V
15V 18V
Line Regulation[2], Single/Dual Output ..... ±0.2% max.
Triple Output ..... ±1% max.
Load Regulation[3],Single/Dual Output ..... ±1% max.
Triple Output ..... ±5% max.

GENERAL SPECIFICATIONS

Efficiency ..... See Table
Isolation Voltage ..... 500 VDC min.
Isolation Resistance ..... 10^8 Ohms min.
Switching Frequency 100KHz
Case Grounding ..... Capacity Coupled to Input
Operating Temperature Range
Ambient, None Derating ..... -25°C to +71°C
Cooling ..... Free Air Convection
Storage Temperature Range ..... -55°C to +105°C
EMI/RFI ..... Six-Sided Continuous Shield.
Dimensions ..... 2.56 * 3.0 * 0.83 inches
(65 * 76.2 * 21.1mm)
Case Material ..... Black-Coated Copper with
Non-Conductive Base
Weight 180g

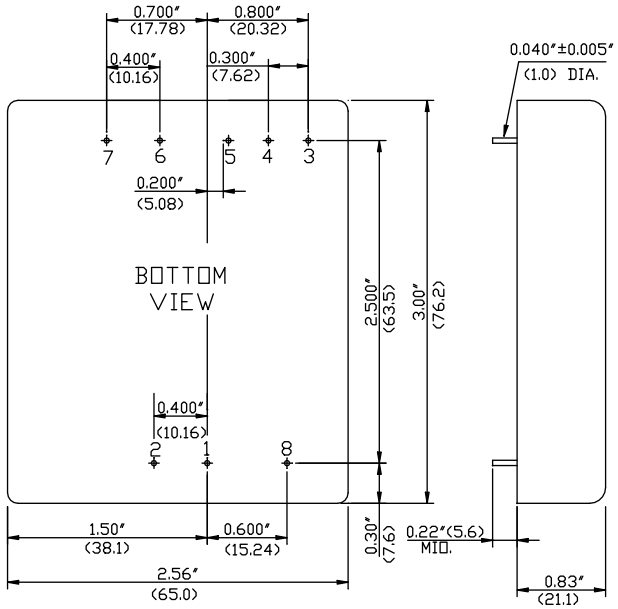
NOTES

1. Determine the correct fuse size by calculating the maximum DC current drain at low line input, maximum load and then adding 20% to 25% to get the desired fuse size.
2. Measured from high line to low line.
3. Measured from full load to 1/4 full load.

REMOTE ON/OFF CONTROL
Logic Compatibility.....
.....CMOS or Open Collector TTL
Ec-ON,.....>+5.5 VDC or Open Circuit
Ec-OFF,.....<1.8VDC
Shutdown Idle Current.....10mA
Control Common.....Referenced to Input Minus

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF	CASE
				NO LOAD	FULL LOAD		
UM801		5 VDC	3000 mA	20 mA	810 mA	77	
UM802		12 VDC	1250 mA	20 mA	780 mA	80	
UM803		15 VDC	1000 mA	20 mA	780 mA	80	
UM804	24 VDC	± 12 VDC	± 625 mA	30 mA	780 mA	80	E
UM805		± 15 VDC	± 500 mA	30 mA	780 mA	80	
UM806		5/±12 VDC	1500/±310 mA	30 mA	800 mA	78	
UM807		5/±15 VDC	1500/±250 mA	30 mA	800 mA	78	
UM811		5 VDC	3000 mA	20 mA	410 mA	76	
UM812		12 VDC	1250 mA	20 mA	390 mA	80	
UM813		15 VDC	1000 mA	20 mA	390 mA	80	
UM814	48 VDC	± 12 VDC	± 625 mA	25 mA	390 mA	80	E
UM815		± 15 VDC	± 500 mA	25 mA	390 mA	80	
UM816		5/±12 VDC	1500/±310 mA	25 mA	400 mA	78	
UM817		5/±15 VDC	1500/±250 mA	25 mA	400 mA	78	

CASE E

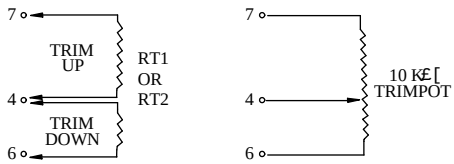


All dimensions in inches(mm).
Tolerance .xx=± 0.04
.xxx=± 0.010

PIN CONNECTIONS			
Pin	Single	Dual	Triple
1	+Input	+Input	+Input
2	-Input	-Input	-Input
3	No Pin	+Output	+Output
4	Output Trim	Common	Common
5	No Pin	-Output	-Output
6	+Output	No Pin	+5V Output
7	-Output	No Pin	No Pin
8	Remote On/Off Control		

EXTERNAL OUTPUT TRIMMING

Output may optionally be externally trimmed (±10%) with a fixed resister or an external trimpot as shown.



TRIPLE OUTPUT LOADING TABLE[1]				
Output	Voltage	Amperes		
		Min[2]	Nom.	Max.
1	+5	.250	1.5	2.0
2 & 3	+12 or –12	.100	.310	.500
2 & 3	+15 or –15	.100	.250	.500

NOTES:

1. Maximum total power from all outputs is limited to 15 watts but no output should be allowed to exceed its maximum current.
2. Minimum current on each output is required to maintain specified regulation.

UNIVERSAL MICROELECTRONICS