UM600 SERIES

15 Watt DC-DC Converters

- **2:1 Input Range.**
- **15W Isolated Output.**
- **Efficiency to 84%.**
- **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, 12V 9-18V
24V 18-36V
48V 36-72V
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 ..... <500 μ sec.
Dual,FL-1/2FL,±1% Error Band ..... <500 μ sec.
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

UNIVERSAL MICROELECTRONICS

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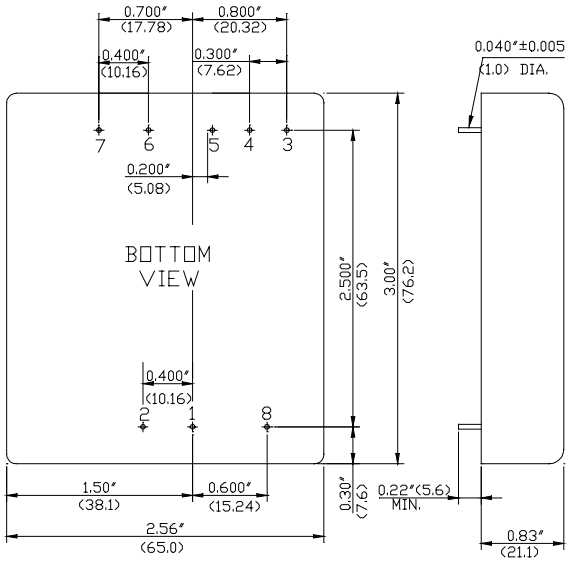
MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF	CASE
				NO LOAD	FULL LOAD		
UM601	12 VDC	5 VDC	3000 mA	30 mA	1700 mA	75	E
UM602		12 VDC	1250 mA	30 mA	1600 mA	78	
UM603		15 VDC	1000 mA	30 mA	1600 mA	78	
UM604		±12 VDC	±625 mA	35 mA	1520 mA	82	
UM605		±15 VDC	±500 mA	35 mA	1520 mA	82	
UM606		5/±12 VDC	1500/±310 mA	40 mA	1600 mA	78	
UM607		5/±15 VDC	1500/±250 mA	40 mA	1600 mA	78	
UM608		+5/+12/-5 VDC	1500/+310/500 mA	40 mA	1470 mA	78	
UM611	24 VDC	5 VDC	3000 mA	20 mA	810 mA	77	E
UM612		12 VDC	1250 mA	20 mA	780 mA	80	
UM613		15 VDC	1000 mA	20 mA	780 mA	80	
UM614		±12 VDC	±625 mA	30 mA	750 mA	84	
UM615		±15 VDC	±500 mA	30 mA	750 mA	84	
UM616		5/±12 VDC	1500/±310 mA	30 mA	780 mA	80	
UM617		5/±15 VDC	1500/±250 mA	30 mA	780 mA	80	
UM618		+5/+12/-5 VDC	1500/+310/500 mA	30 mA	815 mA	80	
UM621	48 VDC	5 VDC	3000 mA	20 mA	410 mA	77	E
UM622		12 VDC	1250 mA	20 mA	390 mA	80	
UM623		15 VDC	1000 mA	20 mA	390 mA	80	
UM624		±12 VDC	±625 mA	25 mA	375 mA	84	
UM625		±15 VDC	±500 mA	25 mA	375 mA	84	
UM626		5/±12 VDC	1500/±310 mA	20 mA	380 mA	82	
UM627		5/±15 VDC	1500/±250 mA	20 mA	380 mA	82	
UM628		+5/+12/-5 VDC	1500/+310/500 mA	20 mA	350 mA	82	

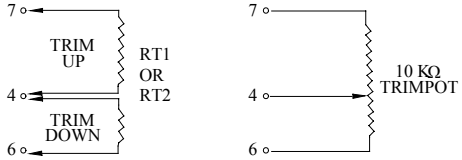
CASE E



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]				
		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
2 & 3	+12 or-5	.100/.100	.310/.500	.500/.500

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

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.

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