UM3100 SERIES

50~100 Watt DC-DC Converters

- **2:1 Input Range**
- **Efficiency to 85%**
- **500 KHz Switching Frequency**
- **Short Circuit Protection**
- **Remote on/off Control**
- **Internal Soft Start**
- **50W to 100W Isolation Output**
- **High-Density**
- **Under Voltage Lockout**
- **Design to Meet EN60950**

SPECIFICATIONS

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

INPUT SPECIFICATIONS

Input Voltage Range,24V 18-36V
48V 36-75V
Input Filter ..... Pi Network
Input Reverse Voltage Protection[1] ..... Internal Shunt Diode
Use External Fuse

OUTPUT SPECIFICATIONS

Voltage Accuracy ..... ±1% max.
External Trim Adj. Range[9] ..... ±10%
..... ±5%
Transient Response[2], ±1% Error Band ..... <500u sec.
Ripple , 20MHz BW[3]
Vout: 2.5V,3.3V 5V ..... 100mV p-p max.
40mV rms max.
Vout: 12V ..... 120mV p-p max.
40mV rms max.
Over-Voltage Protection ..... Clamp Type
Short Circuit Protection ..... Continuous
Line Regulation[4] ..... ±0.2% max.
Load Regulation[5] ..... ±0.5% max.

GENERAL SPECIFICATIONS

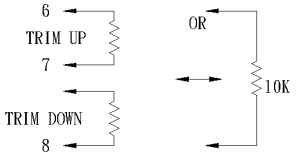
Efficiency ..... See Table
Isolation Voltage 1500Vdc
Isolation Resistance ..... 10^8 Ohms min.
Switching Frequency ..... 500KHz typ.
Baseplate Operating Temperature Range
None Derating ..... -25°C to +85°C
Derating ..... Linearly to Half Power at 100°C
Cooling ..... Free Air Convection
Storage Temperature Range ..... -40°C to +105°C
Thermal Protection ..... 115°C typ.
Dimensions ..... 2.4*2.28*0.5 inches
(61.0*57.9*12.7 mm)

NOTE

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. di/dt=0.1A/1uS ,Vin= Nominal Line, Tc=25°C;load change =0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3. Measured with 10uF Low ESR tantalum capacitor and 0.1uF & 1uF ceramic capacitor across output.
4. Measured from high line to low line.
5. Measured from full load to 1/4 load.
6. Maximum capacitive load across the output ports should not over following indicated values.
7. This converter required a minimum 10% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, However they may not meet all listed specification.
8. Standard product is active low, active high remote on/off option is available, to order suffix a "H" to the model number e.g. UM3111H.
9. External trim adj. range ±10% for UM3118 only.

STANDARD REMOTE ON/OFF CONTROL
Logic Compatibility.....
.....CMOS or Open Collector TTL
Ec-ON .....< 0.8 VDC
Ec-OFF ..... > +2.5 VDC or Open Circuit
Control Common ..... Referenced to Input Minus

EXTERNAL OUTPUT TRIMMING
Output may optionally be externally trimmed with a fixed resistor or an external trimpot as shown.



UNIVERSAL MICROELECTRONICS

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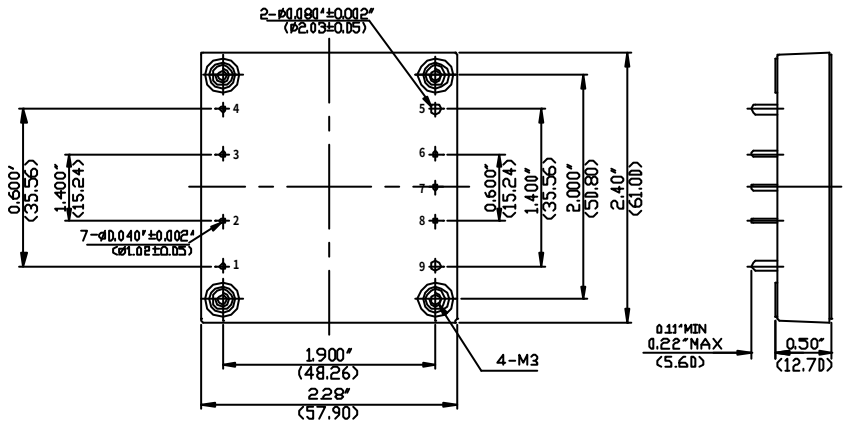
MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	% EFF
UM3101	24 VDC	5 VDC	20 A	80
UM3108	24 VDC	2.5 VDC	20 A	73
UM3109	24 VDC	3.3 VDC	20 A	75
UM3111	48 VDC	5 VDC	20 A	82
UM3112	48 VDC	12 VDC	8.33 A	85
UM3118	48 VDC	2.5 VDC	20 A	74
UM3119	48 VDC	3.3 VDC	20 A	76

NOTE: Other output voltage can be supported upon request.

MODEL NUMBER	UM3101 UM3111	UM3112	UM3108 UM3118	UM3109 UM3119
MAXIMUM[6] CAPACITIVE LOAD (uF)	2200	1000	2200	2200



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

Pin Connections*	
Pin	Function
1	+Vin
2	On/Off
3	CASE
4	-Vin
5	-Vout
6	-Sense
7	Trim
8	+Sense
9	+Vout

NOTE:
* : If remote sensing not utilized, output sense pin must be jumpered to respective output power pins, for normal operation connect Pin NO.5 to Pin NO.6 and Pin NO.8 to Pin NO.9.

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