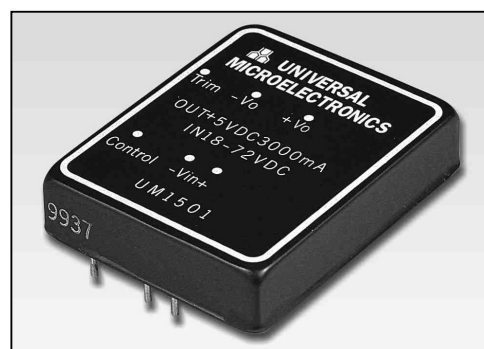


UM1500 SERIES

15 to 20 Watt DC-DC Converters

Green Product
RoHS

- ◆ Surface Mount Technology
- ◆ Efficiency 82%
- ◆ Wide Input Range
- ◆ 10.2 Watt/Cubic Inch
- ◆ Remote On/Off Control
- ◆ Low Profile
- ◆ RoHS Compliant



SPECIFICATIONS

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

INPUT SPECIFICATIONS

Input Voltage Range,

15W	48V Nominal, 18-72 VDC
20W	24V Nominal, 18-36 VDC
	48V Nominal, 36-72 VDC

Input Filter Pi Network

OUTPUT SPECIFICATIONS

Voltage Accuracy, Single Output	±1% max.
Dual, +Output	±1% max.
-Output	±2% max.
Triple, 5V	±1% max.
±12V/±15V	±3% max.

Voltage Balance, Dual Output at Full Load..... ±2.0% max.

Transient Response,

Single, Dual , 25% Step Load Change,	
±1% Error Band	<500u sec.
External Trim Adj. Range	+10%
Ripple and Noise , 20MHz BW ¹	15mV RMS max.
	75mV P-P max.

Temperature Coefficient ±0.02%/°C max.

Short Circuit Protection Continuous

Overvoltage Protection Trip Point (Zener Clamp Type)

5V	6.8V
12V	15V
15V	18V

Line Regulation², Single/Dual Output ±0.5% max.

Triple Output +5V ±0.5% max.

Auxiliaries ±3% max.

Load Regulation³, Single Output ±0.5% max.

Dual Output ±1% max.

Triple Output +5V ±0.5% max.

Auxiliaries ±5% max.

GENERAL SPECIFICATIONS

Remote On/Off Control See Below

Efficiency See Table

Isolation Voltage 500 VDC min.

Isolation Resistance 10⁸ ohms min.

Switching Frequency

Single/Dual 330KHz typ.

Triple 200KHz typ.

Operating Temperature Range,

Ambient, 15W, None Derating -40°C to +71°C

17.2W, None Derating -40°C to +65°C

20W, None Derating -40°C to +60°C

Cooling Free Air Convection

Storage Temperature Range -55°C to +105°C

Dimensions Case J 2.0x1.6x0.46 Inches
(50.8x40.6x11.7 mm)

Case Material Black Coated Copper With
Non-Conductive Base

Weight 50g

NOTES:

1. Measured with 3.3uF/25V tantalum capacitor across each output for triple output models, 0.1uF ceramic capacitor across each output for single and dual output models.
2. Measured from high line to low line.
3. Measured from full load to specified load with all other outputs at rated load: single: full load to 1/4 load; dual outputs loaded balanced from full load to 1/2 load, triple: +5V : from full load to 1/4 load; Auxiliaries: from full load to 1/2 load

REMOTE ON/OFF CONTROL

Control Input	Pin 1
Control Common	Pin 3
Logic Compatibility.....	
	CMOS or Open Collector TTL
Control Voltage.....	
On	>+2.5 VDC or Open Circuit
Off	< +0.8 VDC or Jumper to Pin 3
Converter Shutdown Idle Current	10 mA



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UM1500

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REV.7

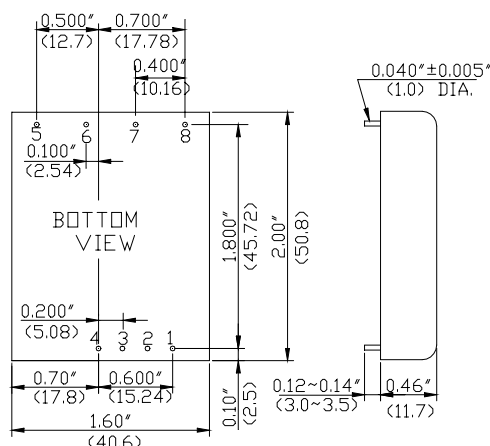
MODEL NUMBER	INPUT RANGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF	REGULATION		MAXIMUM ² CAPACITIVE LOAD (μF)	CASE
				NO LOAD	FULL LOAD		LINE	LOAD		
UM1501	18-72 VDC	5 VDC	3000 mA	30 mA	400 mA	78	0.5%	0.5%	+2200	J
UM1502		12 VDC	1250 mA	30 mA	385 mA	82	0.5%	0.5%	+680	
UM1503		15 VDC	1000 mA	30 mA	395 mA	80	0.5%	0.5%	+330	
UM1504		±12 VDC	±650 mA	35 mA	415 mA	78	±0.5%	±1.0%	+330/-330	
UM1505		±15 VDC	±500 mA	35 mA	395 mA	80	±0.5%	±1.0%	+270/-270	
UM1506		+5/±12 VDC	1500/±310 mA	35 mA	395 mA	80	0.5/±3.0%	0.5/±5.0%	+680/±100	
UM1507		+5/±15 VDC	1500/±200 mA	35 mA	395 mA	80	0.5/±3.0%	0.5/±5.0%	+680/±68	
UM1511	18-36 VDC	5 VDC	4000 mA	60 mA	1055 mA	79	0.5%	0.5%	+2200	J
UM1512		12 VDC	1670 mA	60 mA	995 mA	84	0.5%	0.5%	+680	
UM1513		15 VDC	1330 mA	60 mA	995 mA	84	0.5%	0.5%	+330	
UM1514		±12 VDC	±833 mA	60 mA	995 mA	84	±0.5%	±1.0%	+330/-330	
UM1515		±15 VDC	±666 mA	60 mA	995 mA	84	±0.5%	±1.0%	+270/-270	
UM1526		+5/±12 VDC	2000±300 mA	60 mA	873 mA	82	0.5/±3.0%	0.5/±5.0%	+680/±100	
UM1527		+5/±15 VDC	2000±240 mA	60 mA	873 mA	82	0.5/±3.0%	0.5/±5.0%	+680/±68	
UM1521	36-72 VDC	5 VDC	4000 mA	30 mA	530 mA	79	0.5%	0.5%	+2200	J
UM1522		12 VDC	1670 mA	30 mA	500 mA	84	0.5%	0.5%	+680	
UM1523		15 VDC	1330 mA	30 mA	500 mA	84	0.5%	0.5%	+330	
UM1524		±12 VDC	±833 mA	30 mA	500 mA	84	±0.5%	±1.0%	+330/-330	
UM1525		±15 VDC	±666 mA	20 mA	525 mA	80	±0.5%	±1.0%	+270/-270	
UM1526		+5/±12 VDC	2000±300 mA	35 mA	437 mA	81	0.5/±3.0%	0.5/±5.0%	+680/±100	
UM1527		+5/±15 VDC	2000±240 mA	35 mA	437 mA	81	0.5/±3.0%	0.5/±5.0%	+680/±68	

NOTES:

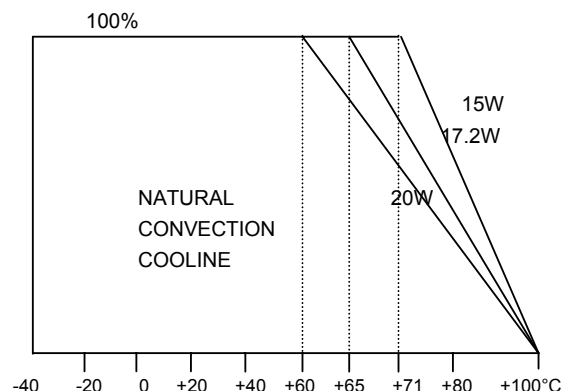
1. Minimum current of 10% full load required on main output and auxiliaries for triple output models.
2. Maximum capacitive load across the output ports should not be over following indicated values.

CASE J

Operating Limits and Output Power Range.



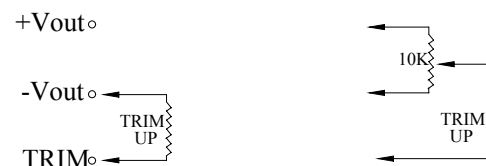
All dimensions in inches (mm).
Tolerance .xx =±0.04"
.xxx=±0.010"



PIN CONNECTIONS			
Pin	Single	Dual	Triple
1	Control	Control	Control
2	No Pin	No Pin	No Pin
3	-Input	-Input	-Input
4	+Input	+Input	+Input
5	No Pin	+Output	+12V, 15V
6	+Output	Common	+5V
7	-Output	-Output	Common
8	Trim	Trim	-12V, 15V

EXTERNAL OUTPUT TRIMMING

Output may optionally be externally trimmed(+10%) with a fixed resistor or an external trim pot as shown.



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