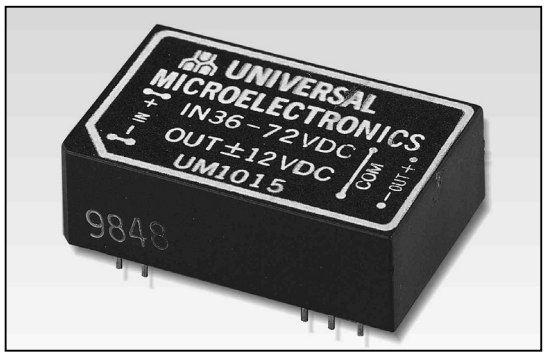
UM1000 SERIES

Green Product
RoHS

3 Watt DC-DC Converters

- **Utilizes Surface Mount Technology**
- **2:1 Input Range**
- **7.5 Watts/Cubic Inch**
- **Efficiency to 80%**
- **Remote On/Off Control**
- **200 KHz Switching Frequency**
- **Continuous Short Circuit Protection**
- **RoHS Compliant**



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 36-72V
Input Filter ..... Pi Network
Remote On/Off Control ..... "TC" Pin-Out Only

OUTPUT SPECIFICATIONS

Voltage Accuracy, Single Output ..... ±1% max.
Dual + Output ..... ±1% max.
-Output ..... ±1% 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.
Ripple and Noise, 20MHz BW,
Single ..... 100mV P-P max.
Dual ..... 100mV P-P max.
Temperature Coefficient ..... ±0.02%/°C max.
Line Regulation[1] ..... ±0.2% max.
Load Regulation[2], Single Output ..... ±0.5% max.
Dual Output ..... ±0.5% max.
Short Circuit Protection ..... Continuous

GENERAL SPECIFICATIONS

Efficiency ..... See Table
Isolation Voltage[3] ..... 500 VDC, 1000 VDC min.
Isolation Resistance ..... 10^8 ohms min.
Isolation Capacitance ..... 300pF typ.
Switching Frequency ..... 200KHz typ.
Operating Temperature Range,
Ambient None Derating ..... -25°C to +71°C
Cooling ..... Free Air Convection
Storage Temperature Range ..... -40°C to+125°C
Dimensions Case A ..... 1.25 x 0.80 x 0.40 inches
(31.8 x 20.3 x 10.2 mm)
Case Material ..... Non-Conductive Black Plastic
UL94V-0
Weight 15g

NOTES:

1. Measured from high line to low line.
2. Measured from full load to no load, dual outputs loaded equally.
3. 1000 VDC for “T”/”TC” pin-out only.

REMOTE ON/OFF CONTROL	
Control Input	Pin 20
Control Common	Pin 23,24
Logic Compatibility	COMS or Open Collector TTL
Control Voltage	
On	>+5.5 VDC Or Open Circuit
Off	<+1.8 VDC or Jumper to Pin 23,24
Converter Shutdown Idle Current	10mA

UNIVERSAL MICROELECTRONICS

3,27TH RD., TAICHUNG INDUSTRIAL PARK,
TAICHUNG, TAIWAN, R.O.C.
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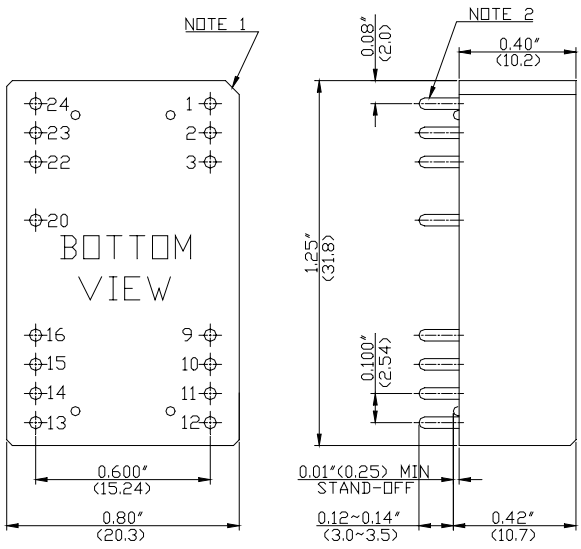
MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRNET		% EFF	REGULATION		CASE	ALT[1] PIN OUT
				NO LOAD	FULL LOAD		LINE	LOAD		
UM1001	24 VDC	5 VDC	500 mA	15 mA	136 mA	77	0.2%	0.2%	A	T/TC
UM1002		12 VDC	250 mA	15 mA	157 mA	80	0.2%	0.2%		T/TC
UM1003		15 VDC	200 mA	15 mA	157 mA	80	0.2%	0.2%		T/TC
UM1004		±5 VDC	±250 mA	15 mA	136 mA	77	± 0.2%	± 0.5%		T/TC
UM1005		±12 VDC	±125 mA	20 mA	157 mA	80	± 0.2%	± 0.5%		T/TC
UM1006		±15 VDC	±100 mA	20 mA	157 mA	80	± 0.2%	± 0.5%		T/TC
UM1009		3.3 VDC	500 mA	15 mA	95 mA	73	0.2%	0.5%		T/TC
UM1011	48 VDC	5 VDC	500 mA	10 mA	68 mA	77	0.2%	0.2%	A	T/TC
UM1012		12 VDC	250 mA	10 mA	78 mA	80	0.2%	0.2%		T/TC
UM1013		15 VDC	200 mA	10 mA	78 mA	80	0.2%	0.2%		T/TC
UM1014		±5 VDC	±250 mA	10 mA	68 mA	77	± 0.2%	± 0.5%		T/TC
UM1015		±12 VDC	±125 mA	10 mA	78 mA	80	± 0.2%	± 0.5%		T/TC
UM1016		±15 VDC	±100 mA	10 mA	78 mA	80	± 0.2%	± 0.5%		T/TC
UM1019		3.3 VDC	500 mA	10 mA	47 mA	73	0.2%	0.5%		T/TC

NOTES: 1. Alternate pin-out version, to order suffix a “T” or “TC” to model number.

2. Maximum capacitive load across the output ports should not be over following indicated values.

MODEL NUMBER	UM 1001	UM 1002	UM 1003	UM 1004	UM 1005	UM 1006	UM 1009	UM 1011	UM 1012	UM 1013	UM 1014	UM 1015	UM 1016	UM 1019
MAXIMUM[2] CAPACITIVE LOAD (uF)	470	220	150	±220	±100	±68	470	470	220	150	±220	±100	±68	470

CASE A



Pin Connections			Alternated Pin Connections Suffix “T”/”TC”	
Pin	Single Output	Dual Output	Single Output	Dual Output
1	NP*	NP*	+V Input	+V Input
2	-V Input	-V Input	+V Input	+V Input
3	-V Input	-V Input	NP*	NP*
9	NC*	Common	NP*	NP*
10	NC*	NC*	NC*	Common
11	NC*	-V Output	NC*	Common
12	NP*	NP*	-V Output	NC*
13	NP*	NP*	+V Output	-V Output
14	+V Output	+V Output	NP*	NP*
15	NC*	NC*	NC*	+V Output
16	-V Output	Common	NP*	NP*
20	NP*	NP*	NP/Control*	NP/Control*
22	+V Input	+V Input	NP*	NP*
23	+V Input	+V Input	-V Input	-V Input
24	NP*	NP*	-V Input	-V Input

All dimensions in inches(mm).

Note 1: Cut-corner marking for Pin No.1

Note 2: Pin size is 0.020±0.005 inch(0.5mm) dia.
Or 0.020*0.012 inch.

Note 3: Tolerance .xx =±0.04”
.xxx =±0.010”

*NC: No Connection.

*NP: No Pin

*NP/Control: Suffix “T” for No Pin.
Suffix “TC” for Control Pin.

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