

# UM2000 SERIES

## 2 Watt DC-DC Converters

- ◆ 24-Pin Dip Package
- ◆ High Efficiency(up to 80%)
- ◆ Regulated Outputs
- ◆ Pi Input Filter
- ◆ 500 VDC Isolation
- ◆ Continuous Short Circuit Protection

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### SPECIFICATIONS

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

### INPUT SPECIFICATIONS

Input Voltage Range .....	5V....4.5-5.5V 12V.....9-18V 24V....18-36V 48V....36-72V
Input Filter .....	Pi Network.

### OUTPUT SPECIFICATIONS

Voltage Accuracy .....	±2.0% max.
Voltage Balance (Dual) <sup>1</sup> .....	±2.0% max.
Ripple and Noise, 20MHz BW .....	60mV P-P max.
Temperature Coefficient .....	±0.05%/°C
Short Circuit Protection .....	Continuous.
Line Regulation <sup>2</sup> .....	±0.5%
Load Regulation <sup>3</sup> .....	±0.5%

### GENERAL SPECIFICATIONS

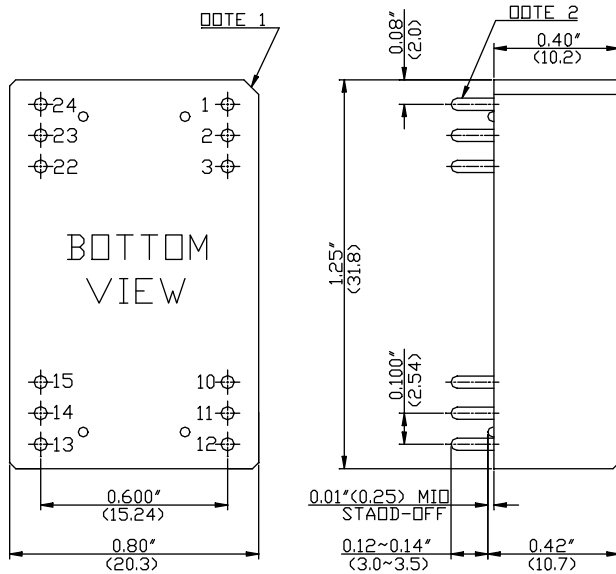
Efficiency .....	See Table
Isolation Voltage .....	500 VDC min.
Isolation Resistance .....	10 <sup>8</sup> Ohms min.
Switching Frequency .....	150KHz-850KHz (Depending on Loading)
Operating Temperature Range	
Ambient, None Derating .....	-25°C to +71°C
Cooling .....	Free Air Convection.
Storage Temperature Range .....	-40°C to +100°C
Humidity .....	95% R.H. max.
Dimensions CASE A .....	1.25 x 0.8 x 0.4 inches. (31.8 x 20.3 x 10.2 mm)
Case Material	
Standard Models .....	Non-Conductive Black Plastic UL94V-0
Weight .....	15g

### NOTES:

1. For common output models.
2. Medsured from high line to low line.
3. Medsured from full load to 10% load.

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		CASE	EFFICIENCY
				NO LOAD	FULL LOAD		
UM2001	5 VDC	5 VDC	400 mA	110 mA	620 mA	A	65%
UM2002		12 VDC	160 mA	100 mA	550 mA		70%
UM2003		15 VDC	130 mA	110 mA	550 mA		70%
UM2004A		±5 VDC	±150 mA	110 mA	600 mA		50%
UM2005		±12 VDC	±80 mA	130 mA	640 mA		60%
UM2006		±15 VDC	±65 mA	140 mA	640 mA		60%
UM2007		9 VDC	250 mA	105 mA	680 mA		66%
UM2011	12 VDC	5 VDC	400 mA	50 mA	230 mA	A	73%
UM2012		12 VDC	160 mA	50 mA	215 mA		75%
UM2013		15 VDC	130 mA	50 mA	215 mA		75%
UM2014		±5 VDC	±200 mA	50 mA	290 mA		57%
UM2015		±12 VDC	±80 mA	70 mA	245 mA		65%
UM2016		±15 VDC	±65 mA	80 mA	240 mA		67%
UM2017		9 VDC	250 mA	50 mA	250 mA		75%
UM2021	24 VDC	5 VDC	400 mA	30 mA	115 mA	A	75%
UM2022		12 VDC	160 mA	30 mA	105 mA		78%
UM2023		15 VDC	130 mA	30 mA	105 mA		78%
UM2024		±5 VDC	±200 mA	35 mA	135 mA		62%
UM2025		±12 VDC	±80 mA	35 mA	115 mA		70%
UM2026		±15 VDC	±65 mA	35 mA	115 mA		70%
UM2017		9 VDC	250 mA	30 mA	120 mA		78%
UM2031	48 VDC	5 VDC	400 mA	5 mA	55 mA	A	75%
UM2032		12 VDC	160 mA	10 mA	50 mA		80%
UM2033		15 VDC	130 mA	10 mA	50 mA		80%
UM2034		±5 VDC	±200 mA	10 mA	70 mA		60%
UM2035		±12 VDC	±80 mA	15 mA	57 mA		70%
UM2036		±15 VDC	±65 mA	15 mA	56 mA		72%
UM2037		9 VDC	250 mA	10 mA	59 mA		80%

CASE A



PIN CONNECTIONS			
Pin	Single Output	Dual Output	
		Separated <sup>1</sup>	Common <sup>2</sup>
1	+V Input	+V Input	+V Input
2	NC*	-V2 Output	-V Output
3	NC*	+V2 Output	Common
10	-V Output	-V1 Output	Common
11	+V Output	+V1 Output	+V Output
12	-V Input	-V Input	-V Input
13	-V Input	-V Input	-V Input
14	+V Output	+V1 Output	+V Output
15	-V Output	-V1 Output	Common
22	NC*	+V2 Output	Common
23	NC*	-V2 Output	-V Output
24	+V Input	+V Input	+V Input

All dimensions in inches(mm).  
 Note 1: Cut-corner marking for Pin No.1 with separated output.  
 Note 2: Pin size is 0.020± 0.005 inch(0.5mm)dia. suffix a "C" to the or 0.020\*0.012 inch common output.  
 Note 3: Tolerance .xx =± 0.02 .xxx =± 0.010

\*NC(No Connection)  
 NOTES:1. Dual output models  
 2. Dual output models  
 Model number with