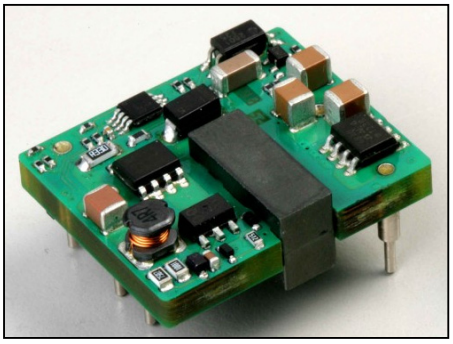
UMEC International Corporation

UM7200 SERIES

Green Product RoHS

12-20 Watt DC-DC Converters

- **2:1 Input Range**
- **12-20 W Isolated Output Power**
- **Industry Standard 1×2 pinout**
- **Input UVLO and Overvoltage Protection**
- **Output Overcurrent/voltage Protection**
- **Over Temperature Protection**
- **2250V Isolation and Basic Insulation**
- **RoHS Compliant**



SPECIFICATIONS

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

INPUT SPECIFICATIONS

Input Voltage Range, 48V 36-75V
Input Voltage peak/surge..... 100V/100ms max.
Input Turn-On Voltage..... 34 VDC typ.
Input Undervoltage Shutdown..... 32 VDC typ.

OUTPUT SPECIFICATIONS

Voltage Accuracy[1],..... ±1.5%max.
External Trim Adj. Range ..... ±10%
Transient Response[2]
Single, 25% step Load Change ..... <300u sec.
Short Circuit Protection ..... Continuous
Line Regulation[3]..... ±0.2% max.
Load Regulation[4] ..... ±0.2% max.
Ripple and Noise, 20MHz BW[5],
1.5V,1.8V,2.5V,3.3V,5.0V.....<25mV RMS max.
1.5V,1.8V,2.5V,3.3V,5.0V.....75mV p-p max.
12V,15V.....<35mV RMS max.
12V,15V.....100mV p-p max.
Overvoltage Protection[6], 1.5V ..... 2.5V typ.
1.8V ..... 2.8V typ.
2.5V ..... 3.6V typ.
3.3V ..... 4.3V typ.
5.0V ..... 6.2V typ.
12V ..... 15V typ.
15V ..... 18V typ.
Minimum Load ..... No Minimum Load Required

GENERAL SPECIFICATIONS

Efficiency ..... See Table
Isolation Voltage ..... 2250 VDC min.
Isolation Resistance[7] ..... 10MΩ min.
Switch Frequency ..... 360KHz typ.
Over temperature shutdown point[8, 9] ..... 115°C typ.
Operation Temperature[10] (with derating) ..... -40°C to +105°C
Storage Temperature Range ..... -55°C to +125°C
EMI/RFI Conducted[11] ..... EN55022 Level A/B
Dimensions ..... 1.1*0.96*0.375 inches (27.9*24.4*9.5 mm)
Weight 10g

APPLICATIONS

Distributed Power Architectures
Telecommunication Equipment
Datacommunication Equipment
Workstation, Servers
Battery Power Systems

NOTE

1. Defined at the static output regulation at 25°C, including initial setting accuracy, Line voltage within stated limits and load current within stated limits.
2. di/dt= 100mA/1uS, Tc= 25°C; load change= 0.5Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3. Measured from high line to low line.
4. Measured from full load to 1/4 load.
5. Measured with 4.7uF ceramic Cap. and 10uF tantalum Cap. cross to output.
6. The converter will automatically restart after the overvoltage protection status be removed.
7. Measured with 500 VDC.
8. Non-latching shutdown protection.
9. Defined as the highest temperature measured at any one of the specified temperature hotspot checkpoints.
10. The power module operate in a variety of thermal environments; however, sufficient cooling should be provided to help ensure reliable operation.
11. Test with external Input filter. Please refer to application note of UM7200 series
12. Standard product is active high, active low remote On/Off option is available, to order suffix a “N” to the model number e.g.: UM7225V0N.

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

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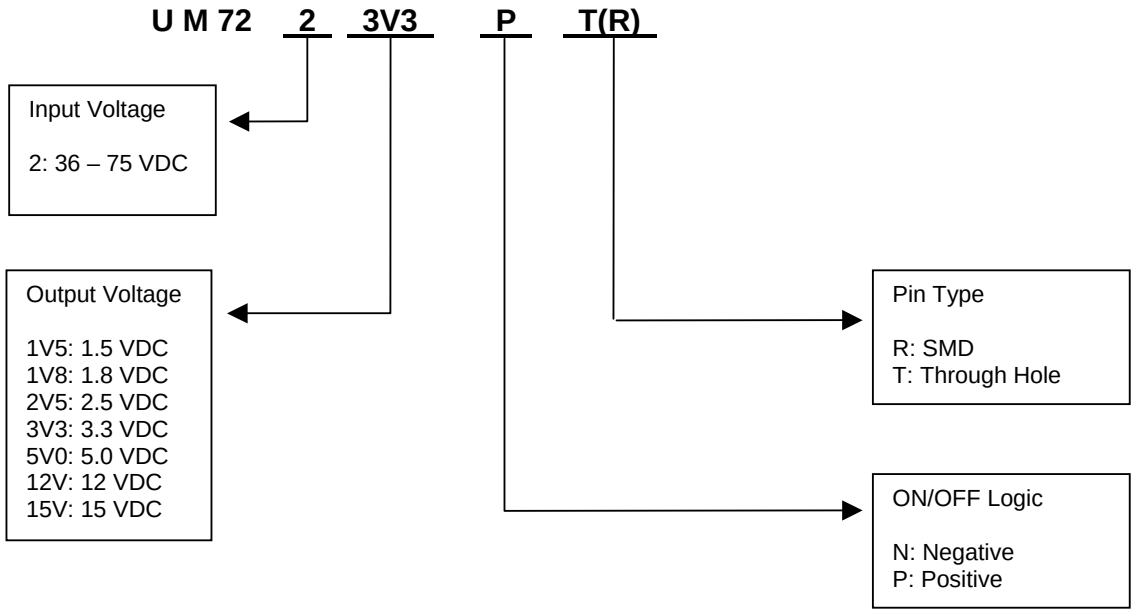
MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT FULL LOAD	TYPICAL EFFICIENCY	Maximum Capacitive Load(uF)
UM7221V5PT(R)		1.5 VDC	8000 mA	298 mA	84%	10000
UM7221V8PT(R)		1.8 VDC	8000 mA	358 mA	84%	10000
UM7222V5PT(R)		2.5 VDC	8000 mA	490 mA	85%	10000
UM7223V3PT(R)	48 VDC	3.3 VDC	6000 mA	480 mA	86%	10000
UM7225V0PT(R)		5.0 VDC	4000 mA	480 mA	87%	10000
UM72212VPT(R)		12 VDC	1670 mA	475 mA	88%	6000
UM72215VPT(R)		15 VDC	1330 mA	468 mA	89%	6000

NOTE: 1. Other output voltage can be supported upon request.
2. Maximum capacitive load across the output ports should not be over indicated values.

PART NUMBERING SYSTEM

The part numbering system for UMEC DC-DC converters follow the format shown in the example below.



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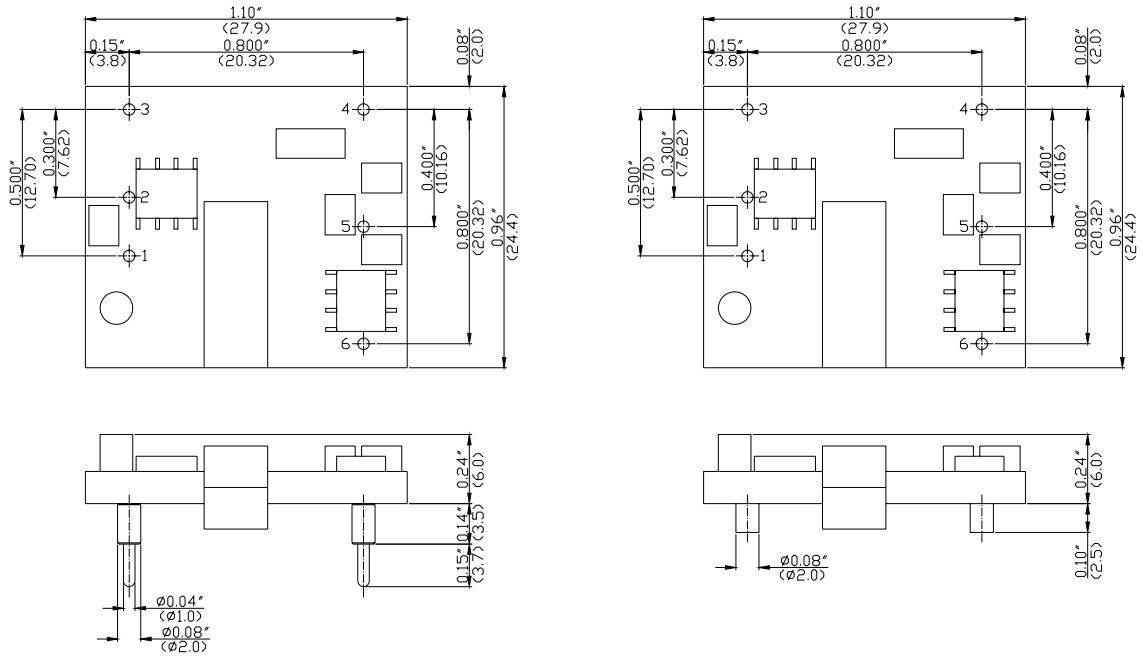
OUTLINE DIMENSIONS

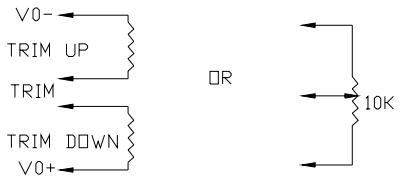


Pin Connections	
Pin	Function
1	+Vin
2	-Vin
3	ON/OFF
4	-Vout
5	Trim
6	+Vout

EXTERNAL OUTPUT TRIMMING

Output may optionally be externally trimmed (±10%)

with a fixed resistor or an external trimpot as shown.



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

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