

99 to 150 Watt 2.28x2.40 Inch Package M 4:1 Input Range



- o Efficiency up to 90%
- o Wide Input Range
- o Regulated Single Output
- o Continuous Short Circuit Protection
- o Half Brick Size Meet Industrial Standard
- o Over-Temperature-Protection, Over-Voltage-Protection and Over-Current-Protection



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF
				NO LOAD	FULL LOAD	
150MRS24X3.3LC	9-36 VDC	3.3 VDC	30 A	200 mA	4741 mA	85
150MRS24X5LC		5 VDC	30 A		7022 mA	87
150MRS24X12LC		12 VDC	12.5 A	100 mA	6944 mA	88
150MRS24X15LC		15 VDC	10 A		6944 mA	88
150MRS24X24LC		24 VDC	6.5 A		7022 mA	88
150MRS48X3.3LC	18-75 VDC	3.3 VDC	30 A	100 mA	2371 mA	87
150MRS48X5LC		5 VDC	30 A		3511 mA	89
150MRS48X12LC		12 VDC	12.5 A	50 mA	3472 mA	90
150MRS48X15LC		15 VDC	10 A		3472 mA	90
150MRS48X24LC		24 VDC	6.5 A		3511 mA	89

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

INPUT SPECIFICATIONS			
Input Voltage Range			4:1
Undervoltage lockout	24 Vin power up		8.8 V
	24 Vin power down		8 V
	48 Vin power up		17 V
	48 Vin power down		16 V
Positiv Logic Remote ON/OFF ⁴⁾	Logic Compatibility	Open Collector Ref. to -Input	
	Module ON	>3.5 VDC or Open Circuit	
	Module OFF	<1.8 VDC	
Input Filter			Pi Type

OUTPUT SPECIFICATIONS			
Voltage Accuracy			±1.5% max.
Transient Response	25% Step Load Change		<500µ sec.
External Trim Adj. Range			±10%
Ripple and Noise at 20 MHz BW ³⁾	3.3V, 5V		40 mV RMS max. 100 mV p-p max.
	12V, 15V		60 mV RMS max. 150 mV p-p max.
	24 V		100 mV RMS max. 240 mV p-p max.
Temperature Coefficient			±0.03%/°C
Short Circuit Protection			Continuous
Line Regulation ¹⁾			±0.2% max.
Load Regulation ²⁾			±0.2% max.
Over Voltage Protection trip Range, % Vo nom.			115-140%
Current Limit			110% ~ 140% Nominal Output

NOTE:

1. Measured from High Line to Low Line.
2. Measured from Full Load to Zero Load.
3. Output Ripple and Noise measured with 10 µF tantalum and 1 µF ceramic capacitor across output.
4. Add Suffix "R" to the Module Number with Negative Logic Remote ON/OFF.
Module ON.....<1.8 VDC
Module OFF...>3.5 VDC or Open Circuit

GENERAL SPECIFICATION			
Efficiency			see table
Isolation Voltage	Input / Output		1500 VDC min.
	Input / Case		1500 VDC min.
	Output / Case		1500 VDC min.
Isolation Resistance			10 MOhms min.
Switching Frequency			250 kHz
Recommended Reflow Soldering Pb-free**			see diagram
Operating Case Temperature Range			-40°C to +100°C
Storage Temperature Range			-55°C to +105°C
Thermal Shutdown (Case Temperature)			+110°C
Dimensions			2.28x2.40x0.52 Inches (57.9x61.0x13.2 mm)
Case Material			Aluminum Base Plate with Plastic Case

*) We do not recommend vapor phase soldering!

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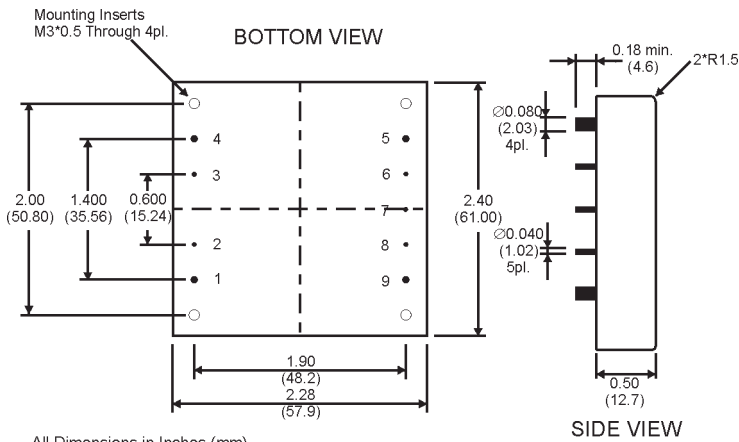
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MECHANICAL SPECIFICATIONS

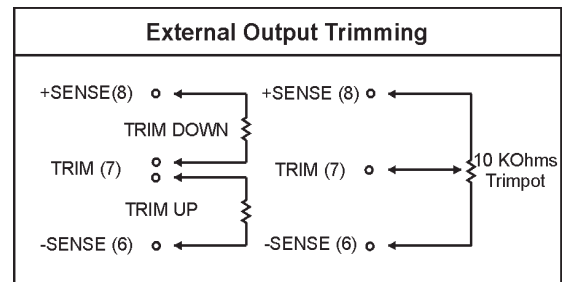
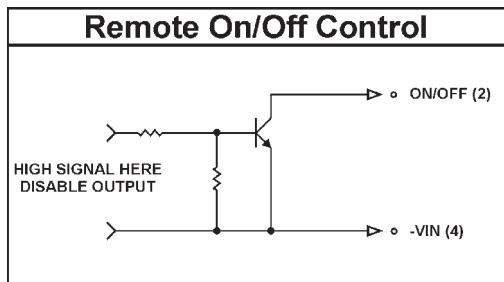
Case „M“



All Dimensions in Inches (mm).
Tolerance: x.xx=±0.02, x.xxx=±0.010 Inches
(x.x=±0.5, x.xx=±0.250 mm)

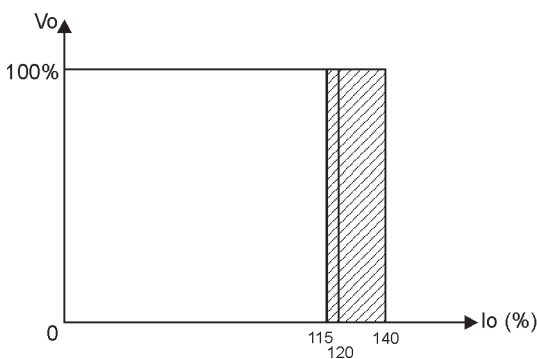
PIN CONNECTIONS	
1	+INPUT
2	REMOTE CONTROL
3	CASE
4	-INPUT
5	-OUTPUT
6	-SENSE
7	TRIM
8	+SENSE
9	+OUTPUT

DIAGRAMS



APPLICATION NOTE

Current Limit Curve



Output Short, Vo Characteristics

