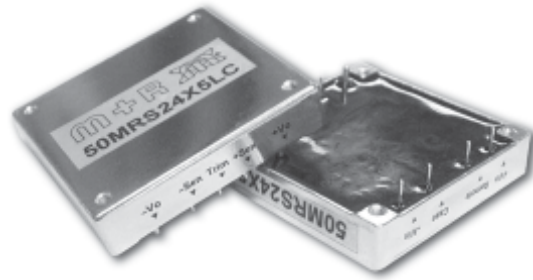


# 25 to 50 Watt 2.28x2.40 Inch Package M 4:1 Input Range



- o Efficiency up to 84%
- o 300 kHz Switching Frequency
- o 4:1 Input Range
- o Regulated Single Output
- o Continuous Short Circuit Protection
- o Half Brick Size Meet Industrial Standard



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		%EFF
				NO LOAD	FULL LOAD	
50MRS24X3.3LC	9-36 VDC	3.3 VDC	10 A	50 mA	1785 mA	77
50MRS24X5LC		5 VDC	10 A		2570 mA	81
50MRS24X12LC		12 VDC	4.16 A		2510 mA	83
50MRS24X15LC		15 VDC	3.33 A		2510 mA	83
50MRS24X24LC		24 VDC	2.08 A		2510 mA	83
50MRS48X3.3LC	18-75 VDC	3.3 VDC	10 A	50 mA	880 mA	78
50MRS48X5LC		5 VDC	10 A		1270 mA	82
50MRS48X12LC		12 VDC	4.16 A		1240 mA	84
50MRS48X15LC		15 VDC	3.33 A		1240 mA	84
50MRS48X24LC		24 VDC	2.08 A		1240 mA	84

**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 <sup>3)</sup>	Logic Compatibility Module ON Module OFF	Open Collector ref. to -Input Open Circuit <0.8 VDC
Input Filter		Pi Type

**OUTPUT SPECIFICATIONS**

Voltage Accuracy		±1% max.
Transient Response	25% Step Load Change	<500µ sec.
External Trim Adj. Range		±10%
Ripple and Noise, 20 MHz BW	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 <sup>1)</sup>		±0.2% max.
Load Regulation <sup>2)</sup>		±0.2% max.
Over Voltage Protection trip Range, % Vo nom		115-140%
Current Limit		110% ~ 160% Nominal Output

1) Measured from High Line to Low Line.

2) Measured from Full Load to Zero Load.

3) Suffix "R" to the Model Number with Negative Logic Remote ON/OFF.

**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		300 kHz
Recommended Reflow Soldering Pb-free*		see diagram
Operating Temperature Range		-40°C to +100°C
Storage Temperature Range		-55°C to +105°C
Thermal Shutdown, Case Temperature		+100°C
Dimensions		2.28x2.40x0.50 Inches (57.9x61.0x12.7 mm)
Case Material		Aluminum

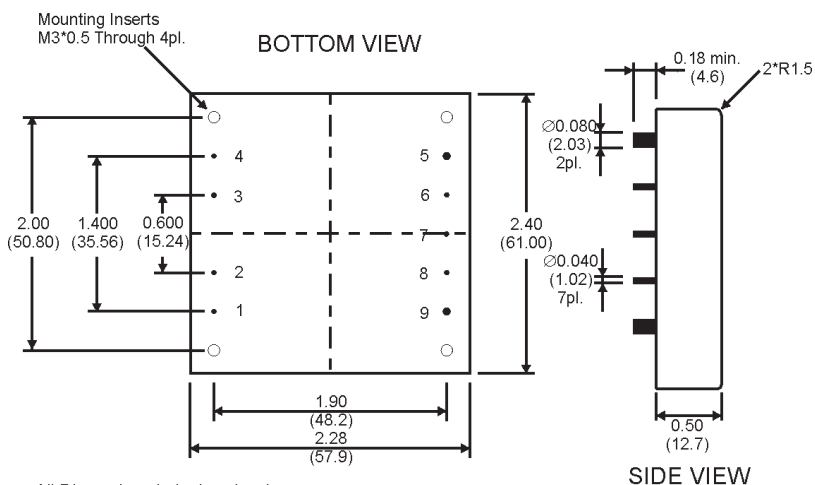
\*) We do not recommend vapor phase soldering!

**SPECIFICATIONS**

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

**MECHANICAL SPECIFICATIONS**

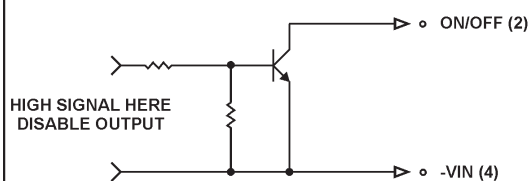
**Case "M"**



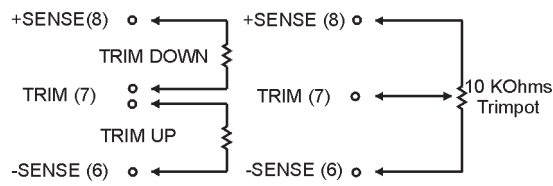
All Dimensions in Inches (mm).  
Tolerance: x.xx=±0.02, x.xxx=±0.010 Inches  
(x.x=±0.5, x.xx=±0.250 mm)

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

**Remote On/Off Control**

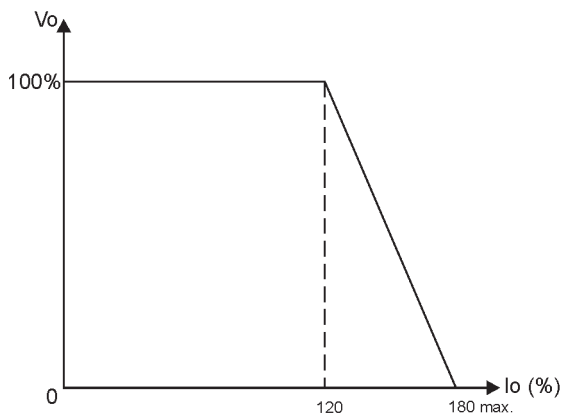


**External Output Trimming**

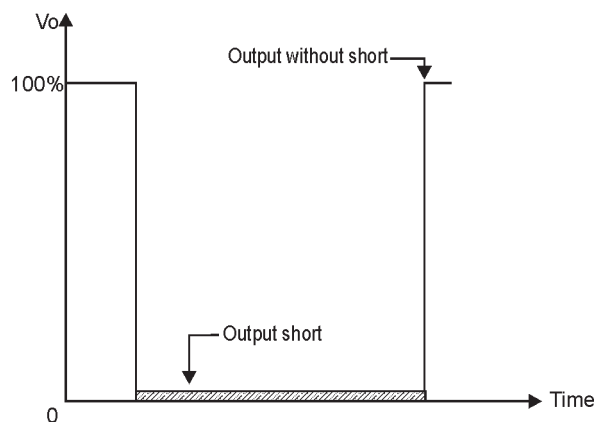


**APPLICATION NOTES**

**Current Limit Curve**



**Output Short, Vo Characteristics**



**NOTICE:**  
The information in this document has been carefully checked. However, no responsibility is assumed for inaccuracies! Specifications can be changed without notice. The latest and most complete information can be found on our website.