50 Watt 1.45x2.28 Inch Package Q 4:1 Input Range

- **High Efficiency up to 92%**
- **No Tatalum Capacitor Insinde**
- **Quarter-Brick Size, Six-Sided Shield Metal Case**
- **Regulated Single Output**
- **Continuous Short Circuit Protection**
- **Over Temperature/Voltage/Current Protection**
- **Full Load Operation up to 80°C with Heat-sink M-C421 Natural Convection**
- **CE Mark Meets 2004/108/EC**
- **Safety Meets UL60950-1, EN60950-1 and IEC60950-1**

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT @ FULL LOAD	INPUT CURRENT		% EFF		CAPACITOR LOAD
				NO LOAD	FULL LOAD	(2)	(3)	
50QRS24X3.3LC	9-36 VDC	3.3 VDC	10 A	100 mA	1528 mA	90	90.5	10000 µF
50QRS24X5LC		5 VDC	10 A	100 mA	2277 mA	91	91.5	10000 µF
50QRS24X12LC		12 VDC	4.16 A	100 mA	2261 mA	91	91.5	4160 µF
50QRS24X15LC		15 VDC	3.33 A	100 mA	2287 mA	91.5	91.5	3330 µF
50QRS24X24LC		24 VDC	2.08 A	60 mA	2311 mA	90	90	2080 µF
50QRS24X48LC		48 VDC	1.04 A	60 mA	2311 mA	88.5	88.5	1040 µF[4)]
50QRS48X3.3LC	18-75 VDC	3.3 VDC	10 A	60 mA	764 mA	90	90	10000 µF
50QRS48X5LC		5 VDC	10 A		1132 mA	91.5	92	10000 µF
50QRS48X12LC		12 VDC	4.16 A		1130 mA	92	92	4160 µF
50QRS48X15LC		15 VDC	3.33 A		1144 mA	91	91	3330 µF
50QRS48X24LC		24 VDC	2.08 A		1156 mA	91	90.5	2080 µF
50QRS48X48LC		48 VDC	1.04 A		1156 mA	89	89	1040 µF[4)]

NOTE
1. Nominal Input Voltage 24, 48 VDC.
2. Measured at 12 VDC for 24X, 24 VDC for 48X.
3. Measured at Nominal Input Voltage.
4. Require a 10 µF Aluminum Capacitor connected between +Vout and -Vout for 48 Vout-Models.

last up-date 25.04.2013

SPECIFICATIONS

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

INPUT SPECIFICATIONS		
Input Voltage Range	24 V 48 V	9-36 VDC 18-75 VDC
Input Surge Voltage (100 ms max.)	24 V 48 V	50 VDC max. 100 VDC max.
Under Voltage Lockout	24 Vin Power up 24 Vin power down 48 Vin power up 48 Vin power down	8.8 V 8.0 V 17 V 16 V
Positive Logic Remote ON/OFF		see Note 4 & 5
Input Filter		PI Type

OUTPUT SPECIFICATIONS		
Voltage Accuracy		±1.5% max.
Transient Response (75% to 100% Step Load Change)	Error Band Recover Time	±5% Vout <500 µs
External Trim Adj. Range		±10%
Ripple and Noise, 20 MHz BW [1)]	3.3 V, 5 V 12 V, 15 V 24 V 48 V	40 mV RMS, 100 mV p-p max. 60 mV RMS, 150 mV p-p max. 100 mV RMS, 240 mV p-p max. 200 mV RMS, 480 mV p-p max.
Temperature Coefficient		±0.03%/°C
Short Circuit Protection		Continuous
Line Regulation [2)]		±0.2% max.
Load Regulation [3)]		±0.2% max.
Over Voltage Protection trip Range, % Vo nom.		115-140%
Current Limit		110%-165% Nominal Output
Start up Time		20 ms typ.

NOTE

1. Output Ripple and Noise measured with 10 µF Aluminum and 1 µF Ceramic Capacitor across Output for 48 Vout and with 10 µF Tantalum and 1 µF Ceramic Capacitor for Others.
2. Measured from High Line to Low Line.
3. Measured from Full Load to Zero Load.
4. Logic Compatibility — open Collector ref to -Input
   Module ON — >3.5 VDC to 75 VDC or open Circuit
   Module OFF — <1.2 VDC
5. Add Suffix "N" to the Model Number with Negative Logic Remote ON/OFF
   Module ON — <1.2 VDC
   Module OFF — >3.5 VDC to 75 VDC or open Circuit

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GENERAL SPECIFICATION		
Efficiency		see table
Isolation Voltage	Input / Output Input / Case Output / Case	1500 VDC min.
Isolation Resistance		10^7 Ohm min.
Isolation Capacitance		1000 pF
Switching Frequency		300 kHz
Operating Case Temperature		-40°C to +105°C
Storage Temperature Range		-55°C to +125°C
Thermal Shutdown, Case Temperature		+110°C
Humidity		95% rel H max. Non Condensing
Safety Standard (designed to meet)		UL60950-1, EN60950-1, IEC60950-1
CE Mark Meets		2004/108/EC
MTBF (MIL-STD-217F, GB, 25°C, Full Load)	24, 48 Vout 3.3, 5, 12, 15 Vout	800 khrs 600 khrs
Dimensions		1.45 x 2.28 x 0.50 Inches (36.8 x 57.9 x 12.7 mm)
Case Material		Aluminum with Non-Conducted Base
Weight		63 g

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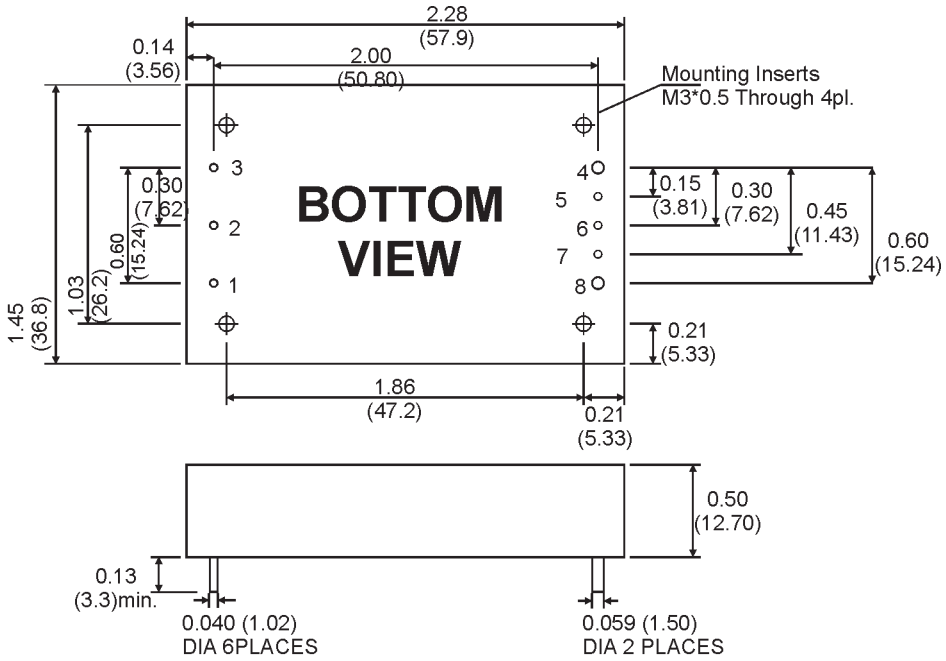
MECHANICAL SPECIFICATIONS

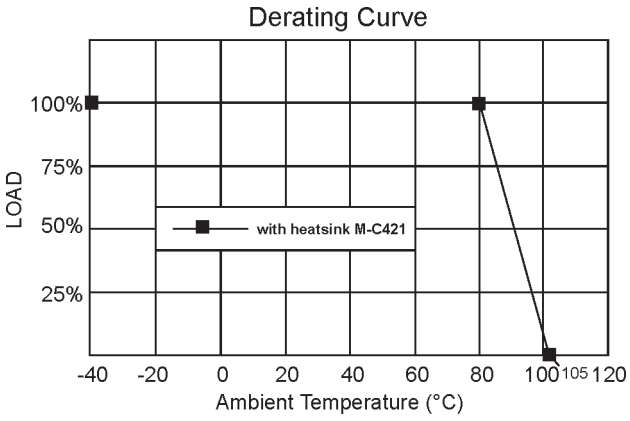
Case „Q"

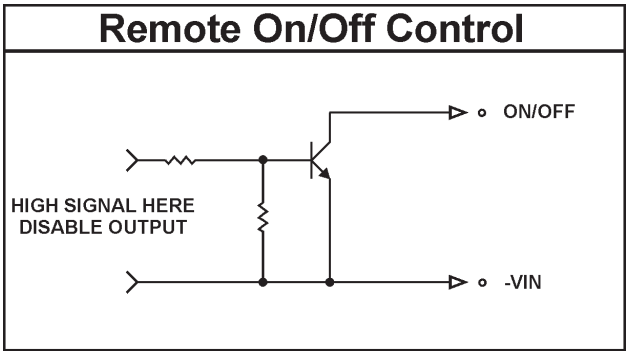


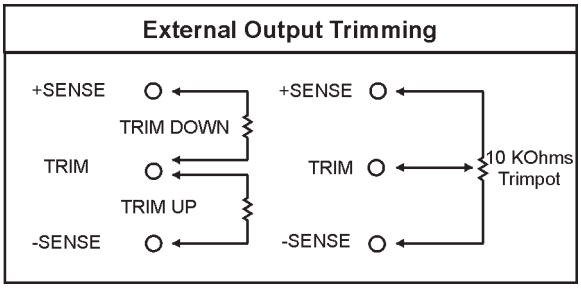
PIN CONNECTIONS	
1	+INPUT
2	REMOTE CONTROL
3	-INPUT
4	-OUTPUT
5	-SENSE
6	TRIM
7	+SENSE
8	+OUTPUT

All Dimensions in Inches (mm).
Tolerance .xx=±0.02, .xxx=±0.010 Inches
(.x=±0.5, .xx=±0.25 mm)

DIAGRAMS







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