

50 Watt

1.45x2.28 Inch Package Q

4:1 Input Range

High Efficiency



- o High Efficiency up to 92%
- o No Tantalum Capacitor Inside
- o Quarter-Brick Size, Six-Sided Shield Metal Case
- o Regulated Single Output
- o Continuous Short Circuit Protection
- o Over Temperature/Voltage/Current Protection
- o Full Load Operation up to 80°C with Heat-sink M-C091 Natural Convection
- o CE Mark Meets 2004/108/EC
- o Safety Meets UL60950-1, EN60950-1 and IEC60950-1



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF		CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD	(2)	(3)	
50QERS24X3.3LC	9-36 VDC	3.3 VDC	0 mA	10 A	100 mA	1528 mA	90	90.5	10000 µF
50QERS24X5LC		5 VDC				2277 mA	91	91.5	
50QERS24X12LC		12 VDC		2261 mA					
50QERS24X15LC		15 VDC		2287 mA		91.5	3330 µF		
50QERS24X24LC		24 VDC		2.08 A	60 mA	2311 mA	90	90	2080 µF
50QERS24X48LC		48 VDC		1.04 A			88.5	88.5	1040 µF ⁴⁾
50QERS48X3.3LC	18-75 VDC	3.3 VDC	0 mA	10 A	60 mA	764 mA	90	90	10000 µF
50QERS48X5LC		5 VDC				1132 mA	91.5	92	
50QERS48X12LC		12 VDC		1130 mA		92	4160 µF		
50QERS48X15LC		15 VDC		1144 mA		91	91	3330 µF	
50QERS48X24LC		24 VDC		2.08 A				1156 mA	90.5
50QERS48X48LC		48 VDC		1.04 A		89	89		1040 µF ⁴⁾

NOTE

1. Nominal Input Voltage 24, 48 VDC.

2. Measured at 12 VDC for 50QERS24X--LC, 24 VDC for 50QERS48X--LC.

3. Measured at Nominal Input Voltage.

4. Require a 10 µF Aluminum Capacitor connected between +Vout and -Vout for 48 Vout-Models.

SPECIFICATIONS

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

INPUT SPECIFICATIONS

Input Voltage Range		4:1
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 ¹⁾	Logic Compatibility Module ON Module OFF	Open Collector Ref. to -Input >3.5 VDC to 75 VDC or Open Circuit <1.2 VDC
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 ²⁾	3.3 V, 5 V	40 mV RMS 100 mV p-p max.
	12 V, 15 V	60 mV RMS 150 mV p-p max.
	24 V	100 mV RMS 240 mV p-p max.
	48 V	200 mV RMS 480 mV p-p max.
Temperature Coefficient		±0.03%/°C
Short Circuit Protection		Continuous
Line Regulation ³⁾		±0.2% max.
Load Regulation ⁴⁾		±0.2% max.
Over Voltage Protection trip Range, % Vo nom.		115-140%
Current Limit		110%-165% Nominal Output
Start Up Time		20 ms

NOTE

1. Add Suffix "R" 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

2. 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.

3. Measured from High Line to Low Line.

4. Measured from Full Load to Zero Load.

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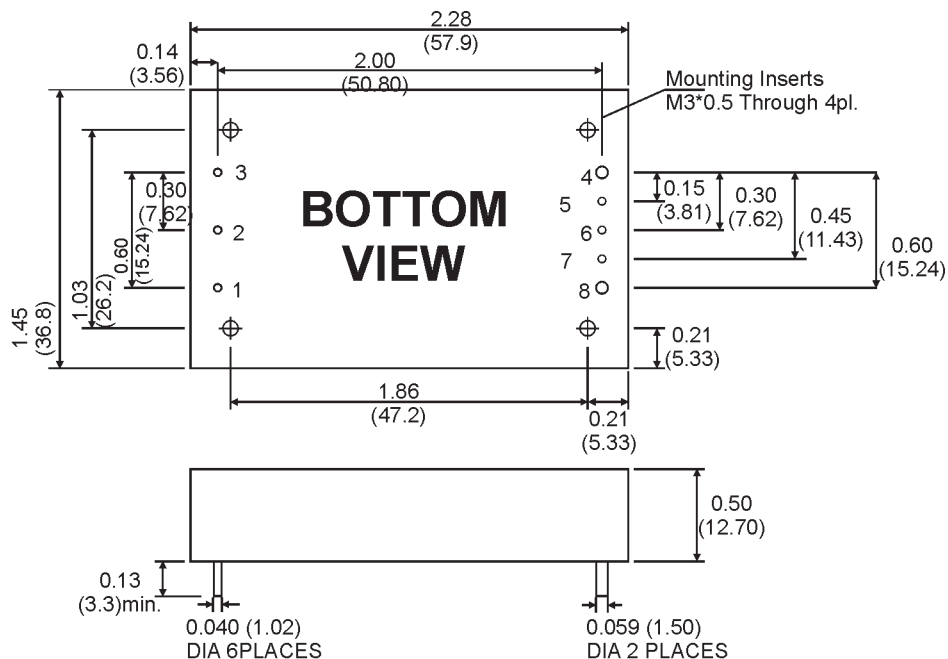
GENERAL SPECIFICATION		
Efficiency		see table
Isolation Voltage	Input / Output Input / Case Output / Case	1500 VDC min.
Isolation Resistance		10 Mohms min.
Isolation Capacitance		1000 pF
Switching Frequency		300 kHz
Operating Case Temperature		-40°C to +105°C
Storage Temperature		-55°C to +125°C
Thermal Shutdown, Case Temperature		+110°C
Humidity		95% RH 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"

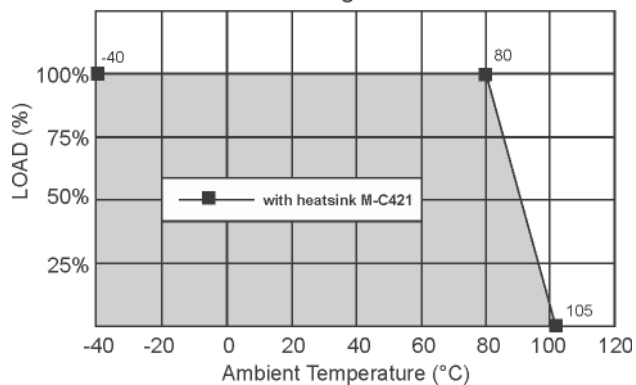


PIN CONNECTIONS	
1	+INPUT
2	REMOTE CONTROL
3	-INPUT
4	-OUTPUT
5	-SENSE
6	TRIM
7	+SENSE
8	+OUTPUT

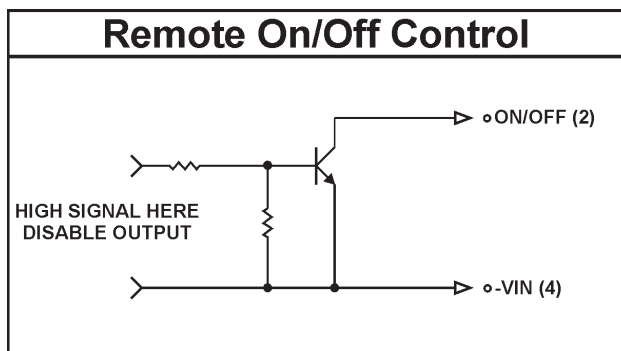
All Dimensions in Inches (mm).
Tolerance x.xx=±0.02, x.xxx=±0.010 Inches
(x.x=±0.5, x.xx=±0.25 mm)

DIAGRAMS

Derating Curve



Remote On/Off Control



External Output Trimming

