

**100 Watt**

**2.28x1.45 Inch Package Q**

**3:1 Input Range**

**Railway System**



- o High Efficiency up to 93%
- o Regulated Single Output
- o Remote ON/OFF
- o Over Temperature Protection
- o Over Voltage/Current Protection
- o Continuous Short Circuit Protection
- o Quarter Brick Size meet Industrial Standard
- o CE Mark meets 2004/108/EC
- o UL60950-1 Approval (Except 3.3 Vout)
- o Meet EN50155 with External Circuits



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT MAX.	INPUT CURRENT		% EFF	CAPACITOR LOAD MAX.
				NO LOAD	FULL LOAD		
100QRS110R3.3LC	66-160 VDC	3.3 VDC	25 A	40 mA	833 mA	90	10000 µF
100QRS110R5LC		5 VDC	20 A	30 mA	983 mA	92.5	
100QRS110R12LC		12 VDC	8.4 A	40 mA	985 mA	93	8800 µF
100QRS110R24LC		24 VDC	4.2 A	60 mA	996 mA	92	1500 µF

NOTE:  
Nominal Input Voltage 110 VDC.

**SPECIFICATIONS**

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

**INPUT SPECIFICATIONS**

Input Voltage Range	110 V	66-160V
Input Surge Voltage (100 ms max.)		180 VDC max.
Undervoltage lockout	Vin power up Vin power down	62 V 56 V
Positive Logic Remote ON/OFF	Logic Compatibility Module ON Module OFF	Open Collector Ref. to -Input >3.5 VDC to 75 VDC or Open Circuit <1.8 VDC
Input Filter		Pi Type

**OUTPUT SPECIFICATIONS**

Voltage Accuracy		±1.5% max.
Transient Response	25% Step Load Change	<200 µ sec.
External Trim Adj. Range		±10%
Ripple and Noise at 20 MHz BW <sup>1)</sup>	3.3, 5V	40 mV RMS max. 100 mV p-p max.
	12V	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>2)</sup>		±0.2% max.
Load Regulation <sup>3)</sup>		±0.2% max.
Over Voltage Protection trip Range, % Vo nom.		115-140%
Current Limit		110% ~ 180% Nominal Output
Start up Time		45 ms

**NOTE:**

- Output Ripple and Noise measured with 10 µF tantalum and 1 µF ceramic capacitor across output.
- Measured from High Line to Low Line.
- Measured from Full Load to Zero Load.
- Add Suffix "R" to the Model Number with Negative Logic Remote ON/OFF.  
Module ON....<1.8 VDC  
Module OFF...>3.5 VDC to 75 VDC or Open Circuit
- Clear Mounting Insert (3.2 mm DIA) on Request.
- An external input capacitor 120 µF for all models are recommended to reduce input ripple voltage.

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<b>GENERAL SPECIFICATION</b>		
Efficiency		see table
Isolation Voltage	Input / Output	2250 VDC min.
	Input / Case	2250 VDC min.
	Output / Case	1500 VDC min.
Isolation Resistance		10 MOhms min.
Isolation Capacitance		1000 pF
Switching Frequency		200 kHz
Operating Case Temperature		-40°C to +100°C
Storage Temperature		-55°C to +105°C
Thermal Shutdown (Case Temperature)		+105°C
Humidity		95% RH max. Non Condensing
MTBF (MIL-HDBK-217F) GB, 25°C, Full Load	3.3 V	400 khrs
	5 V	240 khrs
	Others	320 khrs
Safety (Except 3.3 Vout)		meets UL60950-1 2nd (Basic insulation)
EMC*		meet EN50155 (EN50121-3-2) with external filter
Schock/Vibration		meet EN50155 (EN61373)
Environmental		meet EN50155 (EN60068-2-1)
Dimensions		2.28x1.45x0.50 Inches (57.9x36.8x12.7 mm)
Case Material		Aluminum Baseplate with Plastic Case
Weight		61.5 g

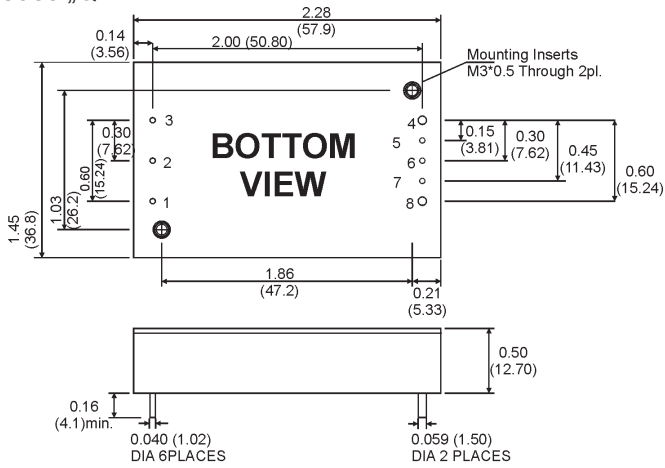
\*) Design meet EN50155 and RIA12 refer to Application Note

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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**

