



# 75 Watt RQS Single Series

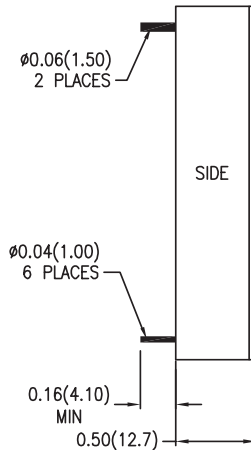
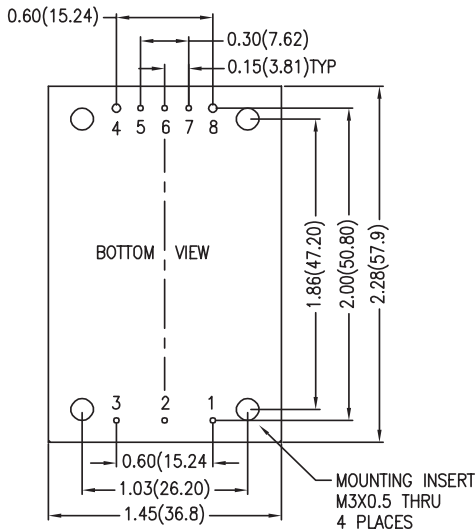


- Designed specifically for Railway Applications
- Input voltages of 72 (43-101)VDC or 110 (66-160)VDC
- Efficiency up to 92%
- 3000VAC<sub>RMS</sub> Isolation
- MTBF > 143,800 Hours
- Overload Protection
- Over Temperature Protection
- Under Voltage Shutdown
- Remote On/Off
- Optional Heatsink
- RoHS Compliant



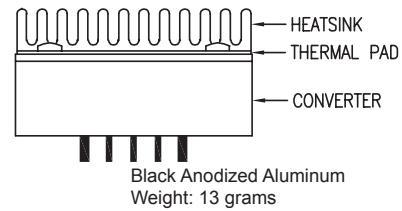
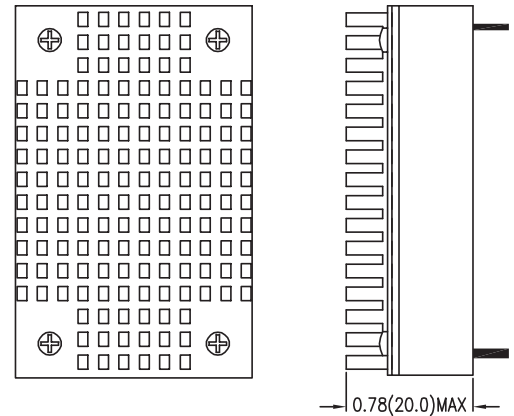
Model Number	Voltage			Current			Overvoltage Protection (VDC)	Reflected Ripple Current (mA (Typ))	Efficiency (@ Max Load (%), Typ)	Capacitive Load (Max (Dual each output))
	Input		Output	Input		Output				
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Max (mA)				
RQS75J72S5	72	43 - 101	5	50	1170	15000	6.2	35	89	25500µF
RQS75J72S12	72	43 - 101	12	45	1132	6250	15	35	92	4400µF
RQS75J72S15	72	43 - 101	15	45	1132	5000	18	35	92	2800µF
RQS75J72S24	72	43 - 101	24	55	1145	3125	30	35	91	1100µF
RQS75J110S5	110	66 - 160	5	40	766	15000	6.2	35	89	25500µF
RQS75J110S12	110	66 - 160	12	35	749	6250	15	35	91	4400µF
RQS75J110S15	110	66 - 160	15	35	749	5000	18	35	91	2800µF
RQS75J110S24	110	66 - 160	24	50	758	3125	30	35	90	1100µF

To order optional Heatsink - add -HS to part number when ordering



### Optional Heatsink (-HS)

To order with heatsink add -HS to model number



Pin Connections	
Pin	Function
1	+ Vin
2	Remote On/Off
3	- Vin
4	-Vout
5	-Sense*
6	Trim
7	+Sense*
8	+Vout

Dimensions are inches (mm) unless noted

Tolerance: Inches      Millimeters

X.XX ±0.01      X.X ±0.25

X.XXX ±0.005      X.XX ±0.13

Pin      ±0.002      ±0.05

\* If remote sense is not used the +Sense should be connected to +output and -Sense should be connected to -output. Maximum output deviation is 10% inclusive of trim.



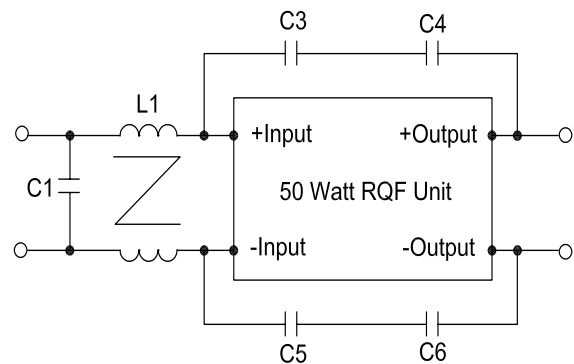
See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Input Surge Voltage (100ms max.) 72 Vin 110 Vin	-0.7 -0.7		165 250	VDC
Startup Threshold Voltage 72 Vin 110 Vin			43 66	VDC
Under Voltage Shutdown 72 Vin 110 Vin		40 63		VDC
Start-up Time		0.35		S
Switching Frequency		320		kHz
Input Filter	Internal Pi Network			
Conducted EMI	Meets EN 55022, EN55011, FCC part 15, Class A			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy at Full Load and Nom Vin			±1.0	%
Load Regulation Min. Load to Full Load			±0.3	%
Line Regulation Vin=Min. to Max.			±0.2	%
Ripple & Noise (20MHz) 24 V Models All other Models			150 100	mV P-P
Transient Recovery Time 25% Load Step Change		250		µs
Transient Response Deviation		±3	±5	%
Temperature Coefficient			±0.02	% / °C
Over Current Protection	Current limitation at 150% typ of Iout max., Hiccup			
Short Circuit Protection	Hiccup mode 0.3Hz typ.			
General Specifications	Min	Typ	Max	Units
Isolation Voltage, 60 seconds (reinforced insulation)	3000			VACrms
Insulation Voltage Input/Output to case	1500			VDC
Isolation Resistance 500VDC	1000			Mohms
Isolation Capacitance, 100kHz, 1V			3000	pF
Temperature	Min	Max w/o heatsink	Max with Heatsink	Units
Operating Temperature Natural Convection, Vin nom, Load 100% Inom. Power derating see derating curves.				
XX.72S12, XX.72S15,	-40	+56	+61	°C
XX.72S24, XX.110S12, XX.110S15	-40	+49	+55	°C
XX.S110S24	-40	+43	+48	°C
XX.S72S5, XX.110S5	-40	+36	+42	°C
	Min	Typ	Max	Units
Baseplate Temperature Range	-40		+105	°C
Over Temperature Protection (Baseplate)			+110	°C

Storage Temperature	-50		+125	°C
Humidity (Operating)	5		95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	143.8			k Hours
Cooling	Free-Air Convection			
Case Size	2.28 x 1.45 x 0.50 inches 57.9 x 36.8 x 12.7 mm			
Case Material	Non-Conductive Black Plastic (UL94V-0) and Aluminum Base Plate			
Weight (Converter only)	61g			

Remote On/Off Control	Min	Typ	Max	Units
DC/DC On	3.5V - 12V or Open Circuit			
DC/DC Off	0V - 1.2V or Short Circuit			
Control Input Current (on) Vctrl = 5.0V		0.5		mA
Control Input Current (off) Vctrl = 0 V		-0.5		mA
Control Common	Referenced to Negative Input			
Standby Input Current Nominal Vin		2.5		mA
Output Voltage Trim	Min	Typ	Max	Units
Trim Up / Down Range % of nominal output voltage	% of nominal output voltage ±10%			

Recommended Filter: for EN55011 & 55022,  
Class A: FCC part 15, level A Compliance

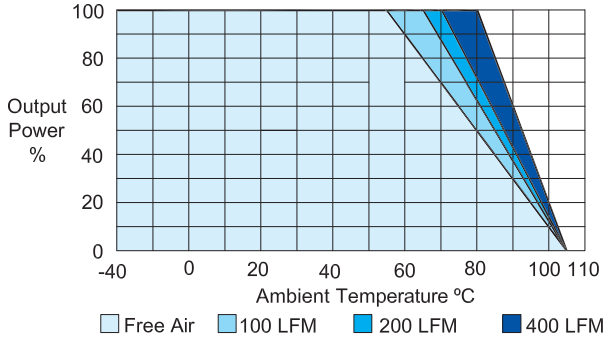


L1	C1	C3, C4, C5 & C6
450µH/ 450µH	Chemi-Con KXG Series 68µF/200V	2200pF 3KV

# Derating Curves

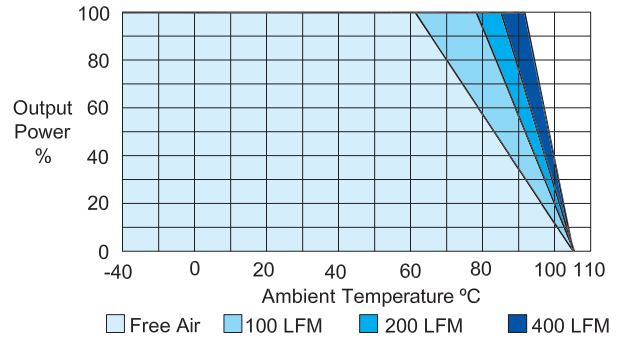
# 75 Watt RQS

Without Heatsink

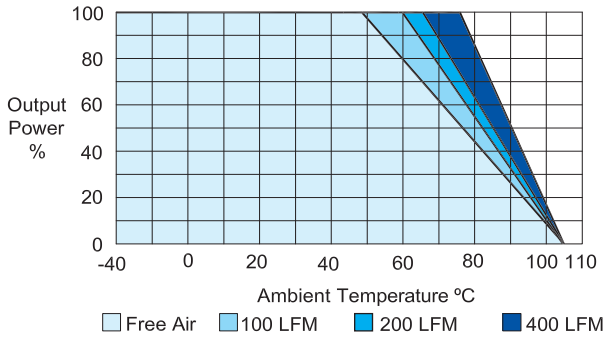


Models: RQS75J72S12, RQS75J72S15

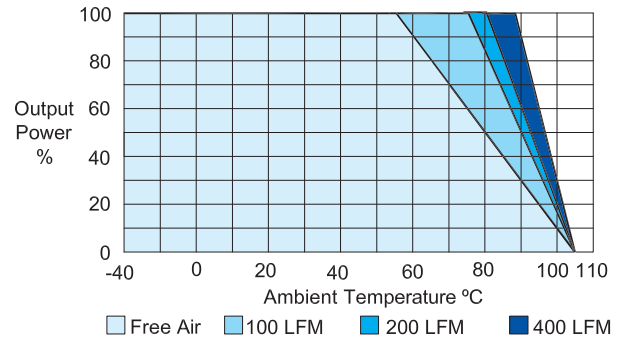
With Heatsink



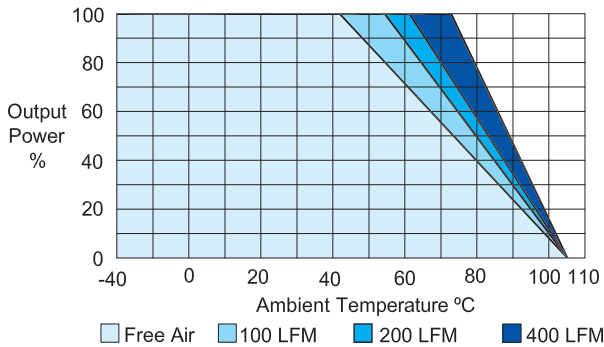
Models: RQS75J72S12, RQS75J72S15



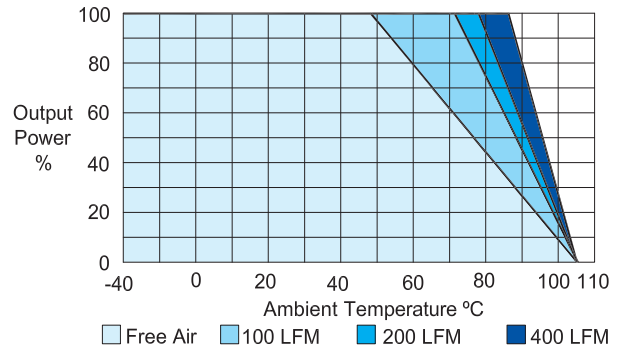
Models: RQS75J110S12, RQS75J110S15, RQS75J72S24



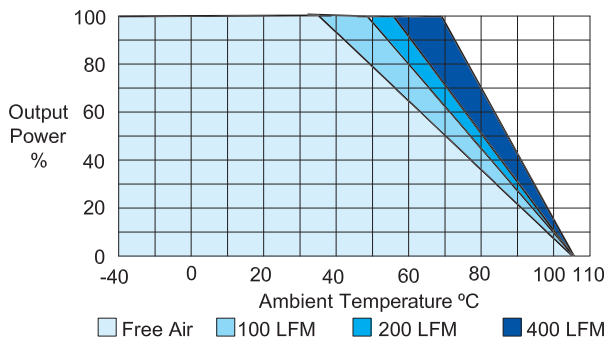
Models: RQS75J110S12, RQS75J110S15, RQS75J72S24



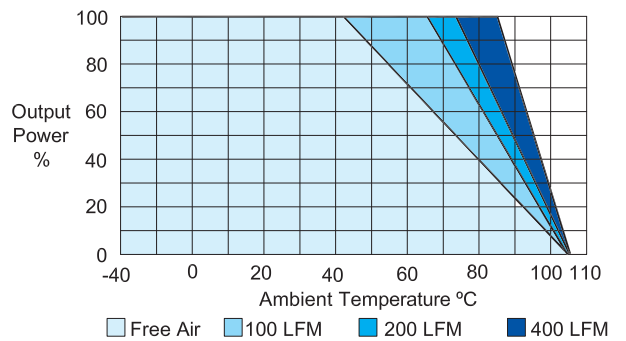
Models: RQS75J110S24



Models: RQS75J110S24



Models: RQS75J72S5, RQS75J110S5



Models: RQS75J72S5, RQS75J110S5