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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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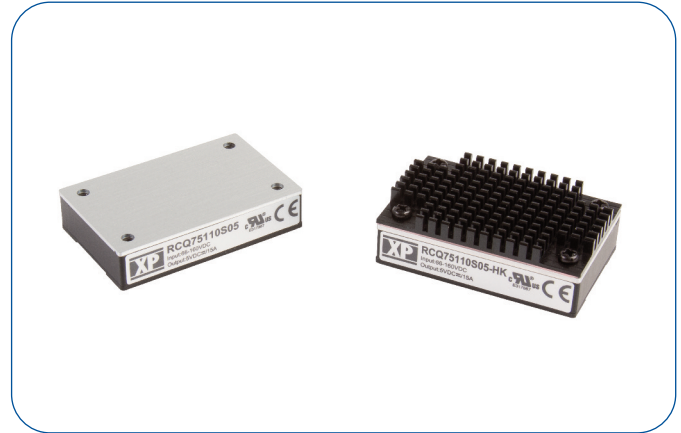
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



75 Watts

- Regulated Single Output
- 72 & 110 VDC for Rail Applications
- Baseplate-cooled
- 3000 VAC Isolation
- Operating Temperature -40 °C to +105 °C
- Remote On/Off & Remote Sense
- Complies with EN50155 and IEC60571
- Meets EMC Standard EN50121-3-2
- Optional Heatsink
- 3 Year Warranty



Dimensions:

RCQ75:

2.28 x 1.45 x 0.50" (57.9 x 36.8 x 12.7 mm)

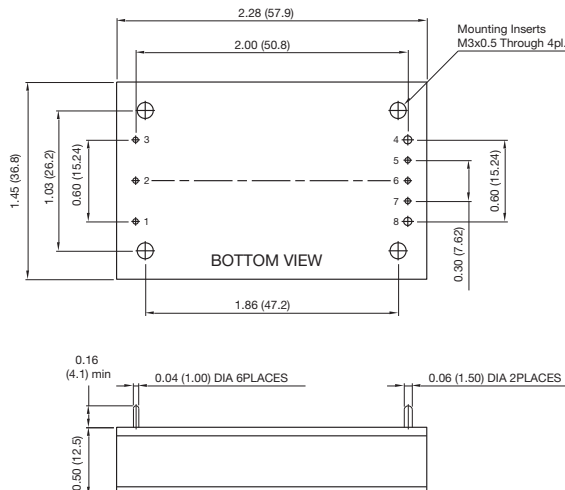
Models & Ratings

Input voltage	Output voltage	Output current	Input current ^(1,2)		Overvoltage Protection	Maximum capacitive load	Efficiency	Model number ⁽³⁾
			No load	Full load				
43-101V	5 V	15.00 A	50 mA	1770 mA	6.2 V	25500 µF	89%	RCQ7572S05
	12 V	6.25 A	45 mA	1130 mA	15.0 V	4400 µF	92%	RCQ7572S12
	15 V	5.00 A	45 mA	1130 mA	18.0 V	2800 µF	92%	RCQ7572S15
	24 V	3.125 A	55 mA	1145 mA	30.0 V	1100 µF	91%	RCQ7572S24
66-160V	5 V	15.00 A	40 mA	765 mA	6.2 V	25500 µF	89%	RCQ75110S05
	12 V	6.25 A	35 mA	750 mA	15.0 V	4400 µF	91%	RCQ75110S12
	15 V	5.00 A	35 mA	750 mA	18.0 V	2800 µF	91%	RCQ75110S15
	24 V	3.125 A	50 mA	760 mA	30.0 V	1100 µF	90%	RCQ75110S24

Notes

1. Input currents measured at nominal input voltage.
2. Input current is typically 2.5 mA at nominal input voltage when output is turned off using remote on/off.
3. Add suffix "-HK" for optional heatsink.

Mechanical Details



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

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

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	43		101	VDC	72 V nominal
	66		160	VDC	110 V nominal
Input Filter	Internal Pi type				
Input Surge			165	VDC for 100 ms	72 V models
			250		110 V models
Remote On/Off	ON: Logic high (3.5-12 V) or open circuit OFF: Logic low (<1.2 V) or short pin 2 to pin 3				
Undervoltage Lockout	ON >43 V, OFF at <40 V				72 V models
	ON >66 V, OFF at <63 V				110 V models

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	5		24	VDC	See Models and Ratings table
Initial Set Accuracy			±1.0	%	At full load
Output Trim			±10	%	See Application Notes
Minimum Load				A	No minimum load required
Line Regulation			±0.2	%	From minimum to maximum input at full load
Load Regulation			±0.3	%	From 0 to full load
Cross Regulation			±5.0	%	On dual output models when one load is varied between 25% and 100% and other is fixed at 100%
Transient Response		3	5	% deviation	Recovery within 1% in less than 250 µs for a 25% load change.
Ripple & Noise			150/100	mV pk-pk	24 output / other models. 20 MHz bandwidth. Measured using 1µF MLCC & 10µF tantalum capacitor.
Overload Protection		150		%	
Short Circuit Protection					Continuous Trip & Restart (Hiccup mode), with auto recovery
Maximum Capacitive Load					See Models and Ratings table
Temperature Coefficient			0.02	%/°C	
Remote Sense	Compensates up to 10% of Vout nominal plus output trim. If remote sense is not used, connect +S to +Vo and -S to -Vo.				

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		91		%	See Models and Ratings table
Isolation: Input to Output	3000			VAC	60 s
Isolation: Output to Case	1500			VDC	
Isolation Resistance	10 ⁹			Ω	At 500 VDC
Isolation Capacitance			3000	pF	
Switching Frequency		320		kHz	
Power Density			45.3	W/in ³	
Mean Time Between Failure		140		kHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.13 (61.0)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Baseplate Temperature	-40		+105	°C	See Derating Curve.
Storage Temperature	-50		+125	°C	
Overtemperature Protection			+110	°C	
Humidity			95	%RH	Non-condensing
Cooling	IEC/EN 60068-2-1				
Dry Heat	IEC/EN 60068-2-2				
Damp Heat	IEC/EN 60068-2-30				
Shock	IEC/EN 61373				
Vibration	EN 45545-2				
Thermal Impedance to Air			7.5/6.8	°C/W	No heatsink / with heatsink

EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
IT Equipment	EN55022	A	Conducted & Radiated, see Application Notes
Railway Equipment	EN50121-3-2		Conducted & Radiated

EMC: Immunity

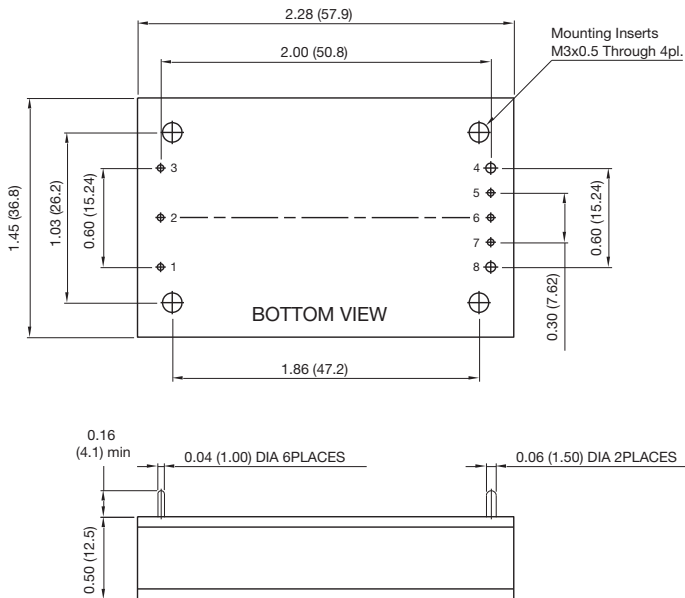
Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
IT Equipment	EN55024	High severity, as below		
Railway Equipment	EN50121-3-2			Electromagnetic compatibility for rolling stock apparatus
ESD	EN61000-4-2	±8 kV air discharge, ±6 kV contact	A	
Radiated	EN61000-4-3	10 V/m	A	
EFT/Burst	EN61000-4-4	±2 kV	A	With external capacitor, suggested part is CHEMI-CON KY 470µF/100V
Surge	EN61000-4-5	±1 kV	A	With external capacitor, suggested part is CHEMI-CON KY 470µF/100V
Conducted	EN61000-4-6	10 V rms	A	

Safety Approvals

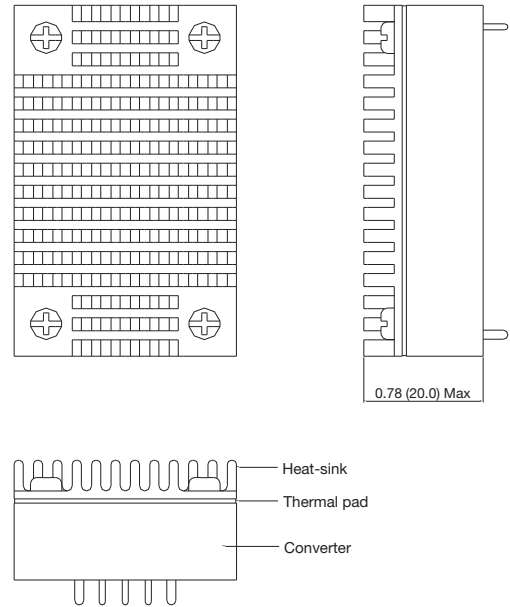
Safety Agency	Safety Standard	Notes & Conditions
CB Report	IEC60950-1	Information Technology
UL	UL/cUL60950-1	Information Technology

Safety Agency	Safety Standard	Notes & Conditions
CB Report	IEC60571	Railway Applications
EN	EN50155	Railway Applications, Electronic Equipment used on Rolling Stock

Mechanical Details



Optional Heatsink (-HK)



Notes

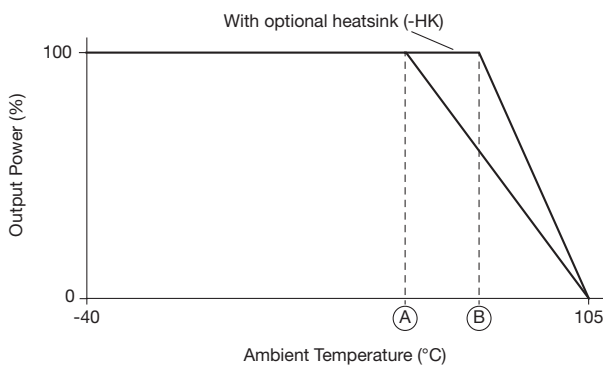
- All dimensions are in inches (mm)
- Weight: 0.13 lbs (61.0g) approx.
- Tolerance: X.XX±0.01 (X.X±0.25)
X.XXX±0.005 (X.XX±0.13)
- Pin Tolerance: ±0.002 (±0.05)

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

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Application Notes

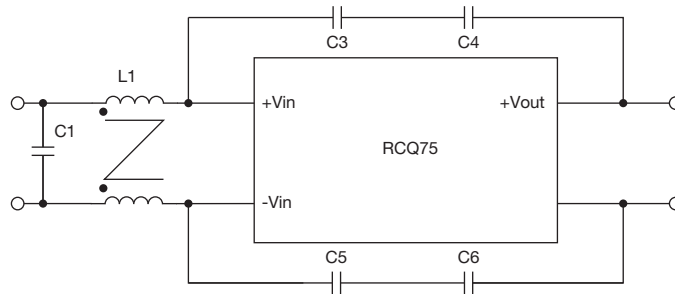
Derating Curve with standard optional heatsink



Models - RCQ75	Max Ambient Temperature	
	No Heatsink (A)	With Heatsink (B)
72S12, 72S15	56°C	61°C
110S12, 110S15	49°C	55°C
11S024	43°C	48°C
72S05, 110S05	36°C	42°C

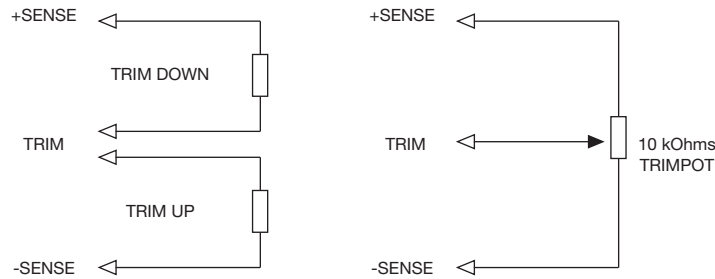
Application Notes

EMI Filter for Conducted Emissions



Class	C1	C3	C4	C5	C6	L1
Class A	CHEMI-CON KXG Series 68 μ F/200V	2200pF/3kV	2200pF/3kV	2200pF/3kV	2200pF/3kV	450 μ H

External Output Trimming



Trim Down Resistor Values (Rd)

Models	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
	Voutx0.99	Voutx0.98	Voutx0.97	Voutx0.96	Voutx0.95	Voutx0.94	Voutx0.93	Voutx0.92	Voutx0.91	Voutx0.90
5V	138.88 k	62.41 k	36.92 k	24.18 k	16.53 k	11.44 k	7.79 k	5.06 k	2.94 k	1.24 k
12V	413.55 k	184.55 k	108.22 k	70.05 k	47.15 k	31.88 k	20.98 k	12.80 k	6.44 k	1.35 k
15V	530.73 k	238.61 k	141.24 k	92.56 k	63.35 k	43.87 k	29.96 k	19.53 k	11.41 k	4.92 k
24V	598.66 k	267.78 k	157.49 k	102.34 k	69.25 k	47.19 k	31.44 k	19.62 k	10.43 k	3.08 k

Trim Down Resistor Values (Ru)

Models	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
	Voutx1.01	Voutx1.02	Voutx1.03	Voutx1.04	Voutx1.05	Voutx1.06	Voutx1.07	Voutx1.08	Voutx1.09	Voutx1.10
5V	106.87 k	47.76 k	28.06 k	18.21 k	12.30 k	8.36 k	5.55 k	3.44 k	1.79 k	0.48 k
12V	351.00 k	157.50 k	93.00 k	60.75 k	41.40 k	28.50 k	19.29 k	12.37 k	7.00 k	2.70 k
15V	422.77 k	189.89 k	112.26 k	73.44 k	50.15 k	34.63 k	23.54 k	15.22 k	8.75 k	3.58 k
24V	487.14 k	218.02 k	128.31 k	83.46 k	56.55 k	38.61 k	25.79 k	16.18 k	8.70 k	2.72 k