

High Density DC-DC Modules

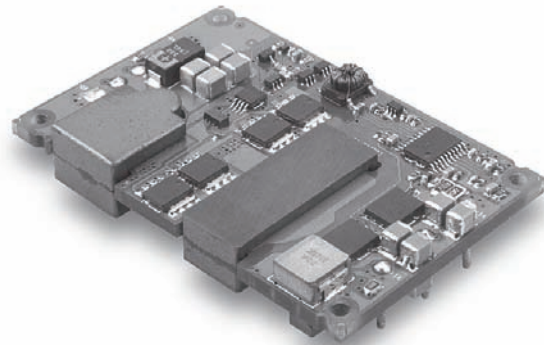


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PSQ125 Series 40-125 Watt DC-DC Converters Single Output

Features

- Quarter brick package
- Regulated outputs
- Efficiency to 92%
- 1500VDC isolation
- Input under voltage protection
- Over current & Over temperature protection
- Remote On/Off control



Electrical Specification

INPUT

Input Voltage Range	36 ~ 75V
Undervoltage Lockout	35V (Vin power up) 33V (Vin power down)
Positive Logic Remote ON/OFF	Open collector ref. to -Input, Module ON: Open circuit, Module OFF: <1.2VDC Add suffix N to Model Number for Negative Logic Remote ON/OFF control
Input Filter	PI Type

OUTPUT

Voltage Accuracy	±1.0% max.
Transient Response: 25% Step Load Change	<500µsec
External Trim Adj. Range	±10%
Ripple & Noise, 20MHz BW	100mV pk-pk max. 120mV pk-pk max. (5V & 12V output versions) measured with a 10µF tantalum & 1.0µF ceramic capacitor across the output

ENVIRONMENTAL

Temperature Coefficient	±0.03%/°C max.
Short Circuit Protection	Continuous / Hiccup
Line Regulation	±0.2% max. measured over full input voltage range
Load Regulation	±0.5% max. measured from 0-100% load
Over Voltage Protection trip range, % Vo nom.	115% ~ 140%
Current Limit	110% ~ 150% Nominal Output

GENERAL

Efficiency	See table
Isolation Voltage	1500VDC min
Isolation Resistance	10 ⁷ ohms min.
Switching Frequency	200KHz typ. 250KHz typ. (3.3V & 2.5V output versions) 300KHz typ. (5V & 12V output versions)
Over Temperature Protection	120°C typ.
Operating Ambient Temperature Range	-40°C to +85°C
Storage Temperature Range	-40°C to +125°C
Dimensions	2.30 x 1.45 x 0.42 inches 58.4 x 36.8 x 10.6 mm
Weight	40g

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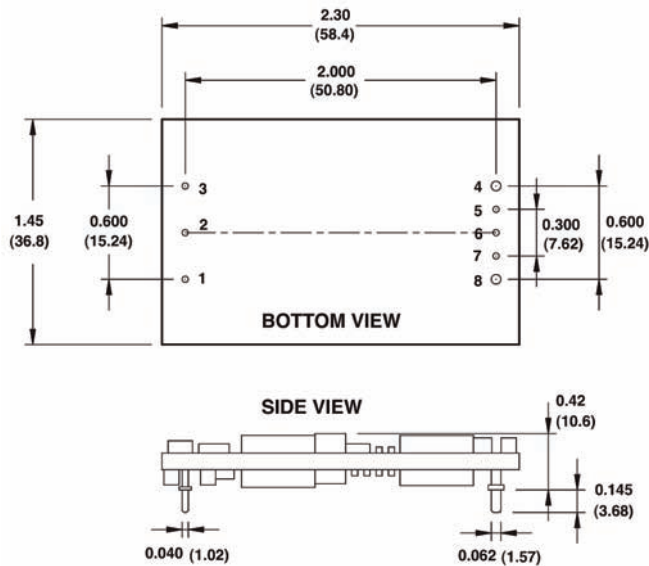
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Output Voltage and Current Ratings

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT max.	INPUT CURRENT		% EFF.
				NO LOAD	FULL LOAD	
PSQ125-48S1V0	36-75 VDC	1.0 VDC	40A	60mA	1016mA	82
PSQ125-48S1V2		1.2 VDC	40A	60mA	1190mA	84
PSQ125-48S1V5		1.5 VDC	40A	60mA	1453mA	86
PSQ125-48S1V8		1.8 VDC	40A	60mA	1724mA	87
PSQ125-48S2V5		2.5 VDC	40A	80mA	2341mA	89
PSQ125-48S3V3		3.3VDC	35A	80mA	2673mA	90
PSQ125-48S05		5VDC	25A	100mA	2861mA	91
PSQ125-48S12		12VDC	10A	100mA	2717mA	92

NOTE: Nominal Input Voltage 48VDC

Mechanical and Connection Details



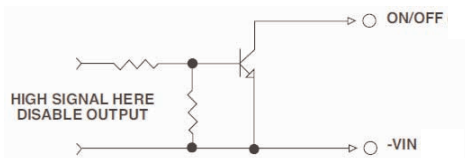
Pin Connection

Pin	Function
1	+Vin
2	ON/OFF
3	-Vin
4	-Vout
5	-Sense
6	Trim
7	+Sense
8	+Vout

All dimensions in inches (mm)
 Tolerances: Inches x.xx ±0.02 x.xxx ±0.010
 Millimeters x.x ±0.5 x.xx ±0.25

Remote ON/OFF Control

The PSQ125 Series allows the user to switch the module on and off electronically with the remote on/off feature. The PSQ125 Series are available with "positive logic" or "negative logic" (option).

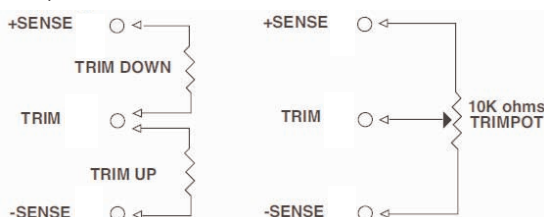


Logic Table

Logic State (Pin 2)	Negative Logic	Positive Logic
Logic low-Switch closed	Module on	Module off
Logic high-Switch open	Module off	Module on

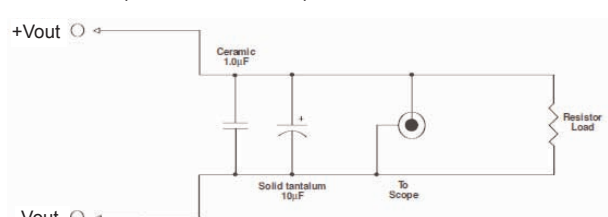
External Output Trim

The output can be trimmed externally (±10%) using a fixed resistor or a trimpot as shown.



Output Noise

The output noise is measured with a 10µF tantalum and a 1.0µF ceramic capacitor across the output.



All specifications typical at nominal line, full load and 25°C unless otherwise stated.

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Application Note

Derating:

The operating temperature range of the PSQ125 series is -40°C to $+85^{\circ}\text{C}$. When operating the PSQ125 series, proper derating or cooling is required.

Following is the derating curve for the PSQ125.

