



[2 YEAR WARRANTY]



- Ultra-high efficiency topology, 91% at 3.3V, 88% typical at 1.8V
- Industry standard footprint
- Wide baseplate temperature, -40°C to +100°C
- 90% to 110% output trim
- No minimum load
- Overvoltage protection
- Remote on/off

The EXQ125 is a new ultra-high efficiency, open frame, isolated converter series in an industry standard quarter-brick footprint that provides up to 100 watts of output power. The EXQ125 delivers very high output current at low voltages, and excellent useable power density for today's high end applications. The first four models in the series feature an input voltage range of 33 to 75VDC and are available in output voltages of 3.3V, 2.5V, 1.8V and 1.5V. The output voltage on each model is adjustable from 90% to 110% of the nominal value. The EXQ125 series also has a remote on/off capability. Overcurrent and overvoltage protection features are included as standard. With full international safety approval including EN60950 (TÜV Rheinland) and UL/cUL1950, the EXQ125 reduces compliance costs and time to market.

SPECIFICATION

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Voltage adjustability		90% to 110%
Set point accuracy		±1.5% max.
Line regulation	Low line to high line	0.1% max.
Load regulation	Full load to min. load	0.2% max.
Minimum load		0A
Overshoot	At turn-on and turn-off	None
Undershoot		None
Ripple and noise	5Hz to 20MHz	60mV pk-pk 20mV rms
Transient response (See Note 1)		2% max. deviation 150µs recovery to within total error band
INPUT SPECIFICATIONS		
Input voltage range	48Vin nominal	33 to 75VDC
Input current	No load Remote OFF	85mA 20mA
Input current (max.) (See Note 3)		3.5A max. @ Io max. and Vin = 33 to 75V
Input reflected ripple	(See Note 5)	300mA (pk-pk) typ.
Active high remote ON/OFF Logic compatibility ON OFF	(See Note 7) Open collector ref to -input Open circuit or >4.0VDC <1.2VDC	
Undervoltage lockout	Power up Power down	32.5V (typ) 30.5V (typ)
Start-up time (See Note 6)	Power up Remote ON/OFF	6ms (typ) 2ms (typ)

EMC CHARACTERISTICS		
Conducted emissions	EN55022 (See Note 2)	Level A
	EN55022 (See Note 2)	Level B
Radiated emissions	EN55022	Level A
Immunity:		
ESD air	EN61000-4-2 8kV (NP), 15kV (RP)	
ESD contact	EN61000-4-2 6kV (NP), 8kV (RP)	
Radiated field enclosure	EN61000-4-3 10V/m (NP)	
Conducted (DC power)	EN61000-4-6 10V (NP)	
Conducted (signal)	EN61000-4-6 10V (NP)	
Input transients	ETS 300 132-2, ETR 283	
GENERAL SPECIFICATIONS		
Efficiency		See table
Operational insulation	Input/output	1500VDC
Switching frequency	Fixed	400kHz typ.
Approvals and standards (See Note 4)		EN60950 (TÜV Rheinland) UL/cUL1950
Material flammability		UL94V-0
Weight		45g (1.6oz)
MTBF	MIL-HDBK-217F @ 25°C, 100% load ground benign	>300,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating baseplate temperature Non-operating	-40°C to +100°C -40°C to +125°C

45 to 82.5 Watt High Efficiency DC/DC converters

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ⁽⁷⁾
							LINE	LOAD	
45.0W	33-75VDC	1.8VDC	1.5V	0A	30A	86.5%	±0.1%	±0.2%	EXQ125-48S1V5
54.0W	33-75VDC	2.3VDC	1.8V	0A	30A	87.5%	±0.1%	±0.2%	EXQ125-48S1V8
75.0W	33-75VDC	3.0VDC	2.5V	0A	30A	89.5%	±0.1%	±0.2%	EXQ125-48S2V5
82.5W	33-75VDC	3.9VDC	3.3V	0A	25A	91.0%	±0.1%	±0.2%	EXQ125-48S3V3

Notes

- 1 di/dt = 0.1A/μs, Vin = 48VDC, Tc = 25°C, load change = 0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
- 2 The EXQ125 meets level A and level B conducted emissions only with external components connected before the input pins to the converter.
- 3 Recommended input fusing is a 5A HRC 200V rated fuse.
- 4 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 5 Measured with no external Pi filter. Significant reduction possible with external filter.
- 6 Start-up into resistive load.
- 7 Active low remote On/Off is available. Standard product is active high. When ordering active low parts, designate with the Suffix '-R', e.g. EXQ125-48S3V3-R.

PROTECTION

Short circuit protection	Continuous
Overvoltage protection	Non-latching clamp

TELECOM SPECIFICATION

Central office interface A	ETS300-132-2, input voltage and current requirements
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CAUTION: Hazardous internal voltages and high temperatures.
Ensure that unit is not user accessible.

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+Vin
2	On/Off
3	-Vin
4	-Vout
5	-Sense
6	Trim
7	+Sense
8	+Vout

