

Quarter-Brick Series

Wide Input IBC

Total Power: 168W
Input Voltage: 36 - 75VDC
of Outputs: Single

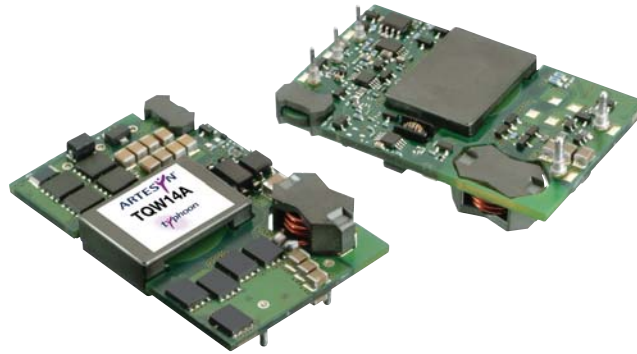
Special Features

- Wide input 36 Vdc to 75 Vdc
- Output voltage of 12 V $\pm 10\%$
- Current rating 14 A
- Ultra high efficiency, 94.5% typical
- Industry standard quarter-brick footprint
- Low profile - 0.35"
- Remote ON/OFF
- Available RoHS compliant
- 2 Year Warranty

Safety

UL/cUL : CAN/CSA 22.2 No.
60950-00 : UL 60950
UL 60950 File No. E174104

TÜV Product Service (EN60950)
Certificate No.
B 04 07 38572 046



This series is a Quarter-Brick, wide-input intermediate bus converter (IBC). Capable of operating from any input voltage in the range 36 Vdc to 75 Vdc, this high efficiency isolated dc-dc converter module generates a semi-regulated 12 V output and can deliver up to 14 A. This series features a low profile open-frame construction and has an industry standard quarter-brick footprint.

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Specifications

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

OUTPUT SPECIFICATIONS

Output voltage	(Nominal)	12 Vdc
Output voltage range		10.8-13.2 Vdc
Total regulation (Over line, load and temperature)		±10% max. 36-75 Vin ±5% max. 40-60 Vin
Output current		0 A min. 14 A max.
Ripple and noise (See Note 2)	(0-20 MHz)	150 mV pk-pk
Output capacitance	External to unit	200 µF min.

INPUT SPECIFICATIONS

Input voltage range		36-75 Vdc
Input current	No load Max.	100 mA 3.9 A max. @ 48 Vin
Active low remote ON/OFF (See Note 1)	Open collector ref to input >1.1 Vdc or floating <0.8 Vdc	
Start-up time	Power-up from Remote ON/OFF	15 ms typ.

EMC CHARACTERISTICS

Conducted emissions	EN55022	Level A
	EN55022	Level B
Radiated emissions	EN55022	Level A
Immunity:		
ESD air	EN61000-4-2 8 kV	
ESD contact	EN61000-4-2 6 kV	
Radiated field enclosure	EN61000-4-3 10 V/m	
Conducted (dc power)	EN61000-4-6 10 V	
Conducted (signal)	EN61000-4-6 10 V	
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency		94.5% typ.
Basic insulation	Input/output	2250 Vdc
Switching frequency	Fixed	333 kHz
Approvals and standards	EN60950 (TÜV Product Service)	UL/cUL60950
Material flammability		UL94V-0
Weight		40 g (1.43 oz)
MTBF	MIL-HDBK-217F	156,000 hours
Representative model:	14 A @ 48 Vin, 40 °C 100% load ground benign	
	Telcordia SR-332	1,231,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 3)	Operating ambient temperature	-40 °C to +100 °C
	Non-operating	-55 °C to +125 °C

PROTECTION

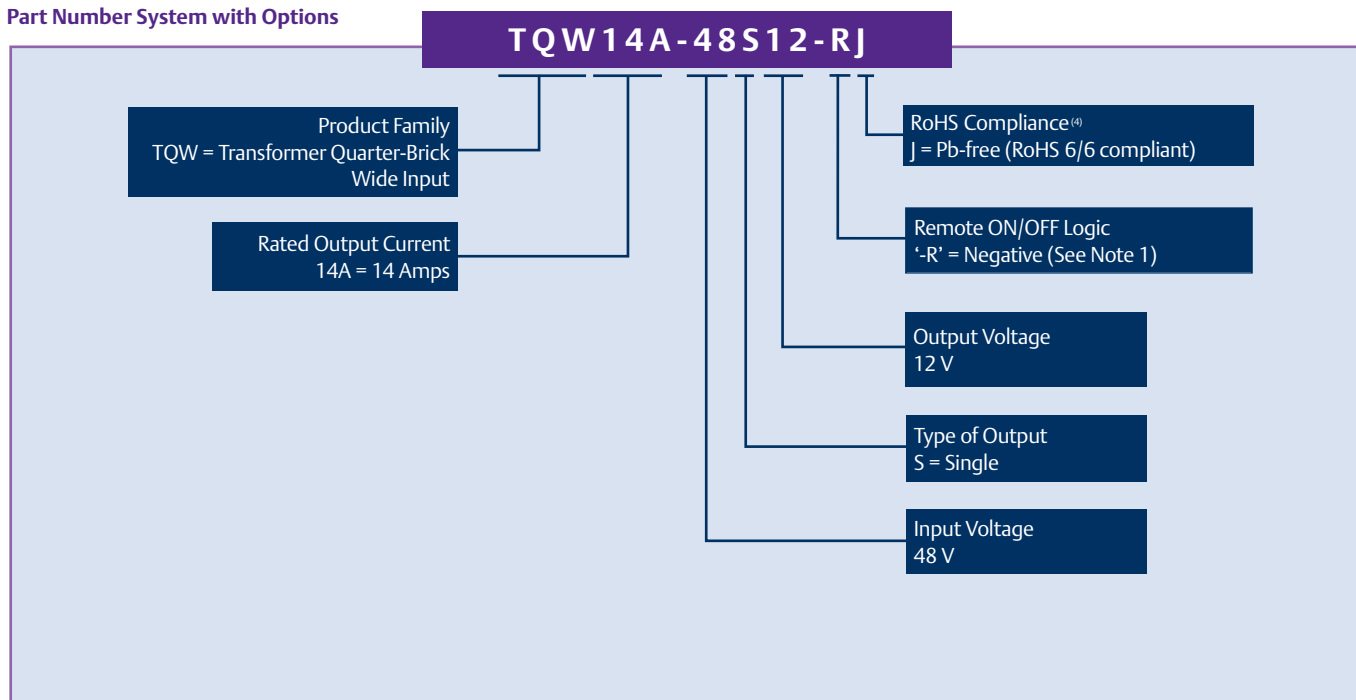
Current limit and short-circuit	Hiccup, auto recovery
Thermal	Auto recovery

Specifications Contd.

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OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	TOTAL REGULATION	MODEL NUMBER ^(1,4)
168 W	36-75 Vdc	12 V	0 A	14 A	94.5%	±10%	TQW14A-48S12-RJ

Part Number System with Options

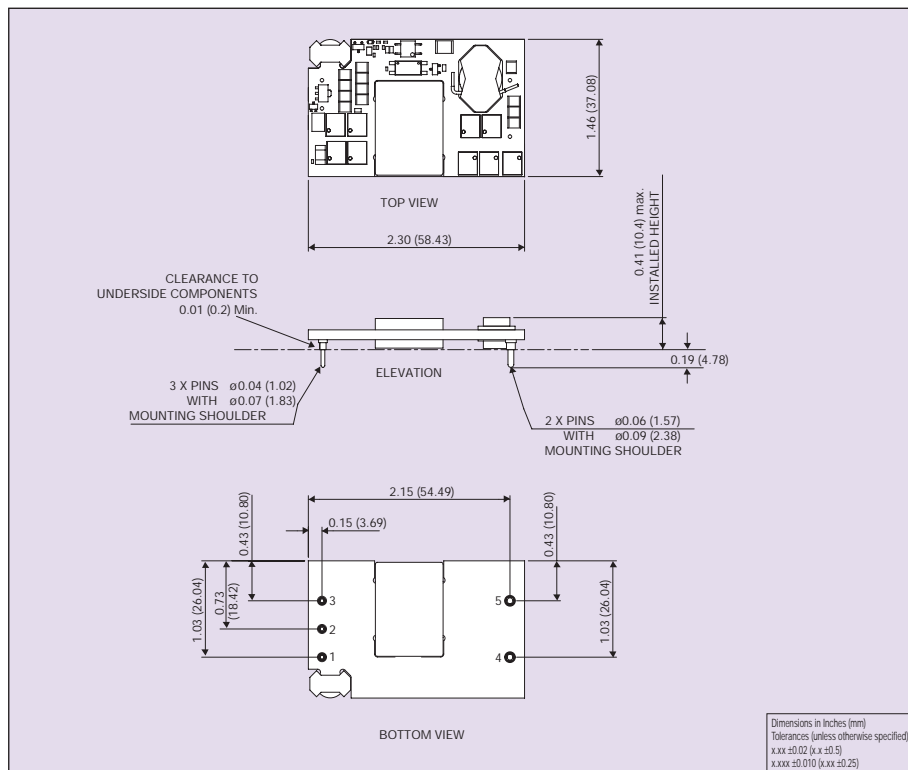


Notes

- The standard product features active-low remote ON/OFF.
Active low ON/OFF
ON < 0.7 V
OFF > 1.1 V or open circuit.
- Tested with 4 x 47 µF tantalum capacitors plus 2 x 4.7 µF ceramic capacitors.
See Application Note 135 for set-up.
- Derating curves available in both the Longform Datasheet and Application Note.
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.

RECOMMENDED SYSTEM CAPACITANCE

Input capacitance	33 µF
Output capacitance	200 µF/10 mW ESR max.



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	Vin+
2	Remote
3	Vin-
4	Vout+
5	Vout-

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