

Quarter-Brick Series

Fixed Ratio 2nd Generation IBC

Total Power: 600W
Input Voltage: 38 - 55VDC

Special Features

- 48 V input with isolated 9.6 V output
- Ultra-high efficiency, 97%
- Unprecedented usable output power levels
- High power density open-frame technology
- Wide operating ambient temperature range
- DOSA quarter-brick high current footprint and pinout
- Low profile, 0.48" (12.2 mm)
- Meets basic insulation requirements of EN60950-1
- Remote ON/OFF and overtemperature protection
- RoHS compliant
- 2 Year Warranty

Safety

- UL/cUL : CAN/CSA 22.2 No. 60950-1 : UL60950-1 File No. E135734
- VDE File No. 10401-3336-0206 Licence No. 40012752

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Electrical Specifications

Input		
Input voltage range:		38-55 Vdc
Input current:	Remote OFF	6.5 mA typ.
Input current (max.):	(See Note 1)	13 A max. @ I _o max. and V _{in} = min. rated
Input reflected ripple:	(See Note 4)	1200 mA (pk-pk) 35 mA rms
Remote ON/OFF		(See Note 6)
Logic compatibility		Open collector ref. to -Input
ON		> 2.4 Vdc
OFF:		< 0.4 Vdc
Undervoltage lockout:	Power up	34.5 V
	Power down	33 V
Start-up time:	Power up	11rms
(See Note 3)	Remote ON/OFF	2 rms
Output		
Line regulation:	Low line to high line	See table
Load regulation:	Full load to min. load	See Table
Total error band: (including setpoint, line, load and temperature)	V _{in} = 38 V to 55 V	7.0 - 11.0 Vdc
Minimum load:		0 A
Overshoot:	At turn-on and turn-off	None
Undershoot:		None
Ripple and Noise:	(See Note 2)	100 mV pk-pk typ. 20 mV rms typ.
	5-20 MHz	

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



Electrical Specifications Continued

EMC Characteristics		
Immunity:		
ESD air enclosure:	EN61000-4-2 8 kV, 6 kV	Air, contact
Input transients:	Input voltage	Duration before shutdown
	> 59 V	2 Seconds
	> 60 V	1 Second
	> 62 V	0 Seconds
General Specifications		
Efficiency:		97%
Basic insulation:	Input/output	2250 Vdc
Switching frequency:	Fixed	340 kHz typ.
Approvals and (Pending) standards:	(See Note 5)	EN60950-1 VDE UL/cUL60950-1
Material flammability:		UL94V-0
Weight:		59 g (2.08 oz)
MTBF representative model:	Telcordia Tech SR-332 48 Vin, 40 °C, 50% load ground benign	TBD hours
Protection:		
Short-circuit		Hiccup
Overvoltage:	(See Note 9)	Non-latching
Thermal		140 °C hot spot

Environmental Specifications

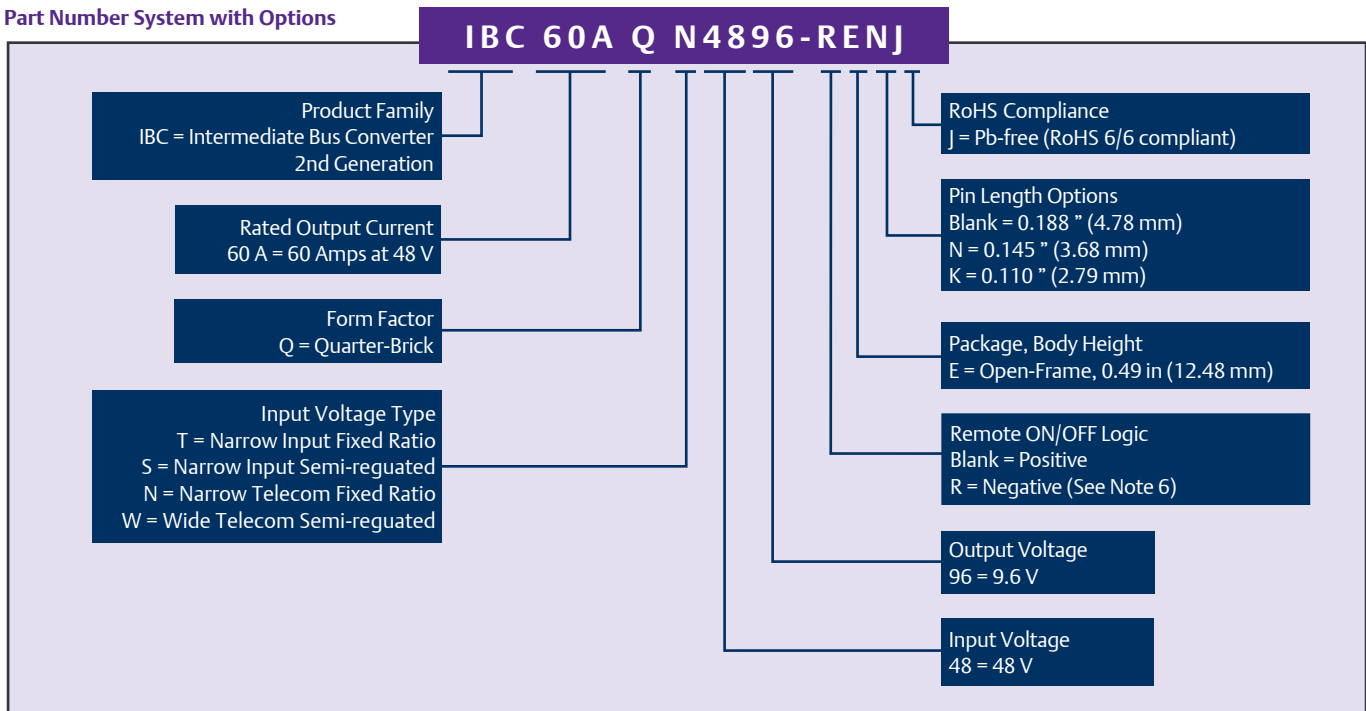
Thermal Performance:	Operating ambient temperature	-40 °C - +85 °C
	Non-operating	-55 °C to +125 °C

Ordering Information

Ordering Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Current (min.)	Output Current max.)	Efficiency (typ)	Regulation			Model Numbers
						Set Point Accuracy	Line %	Load %	
642 W	38-55 Vdc	9.6 V	0 A	60 A	97%	--	32.5%	2.5%	IBC60AQN4896J

Part Number System with Options

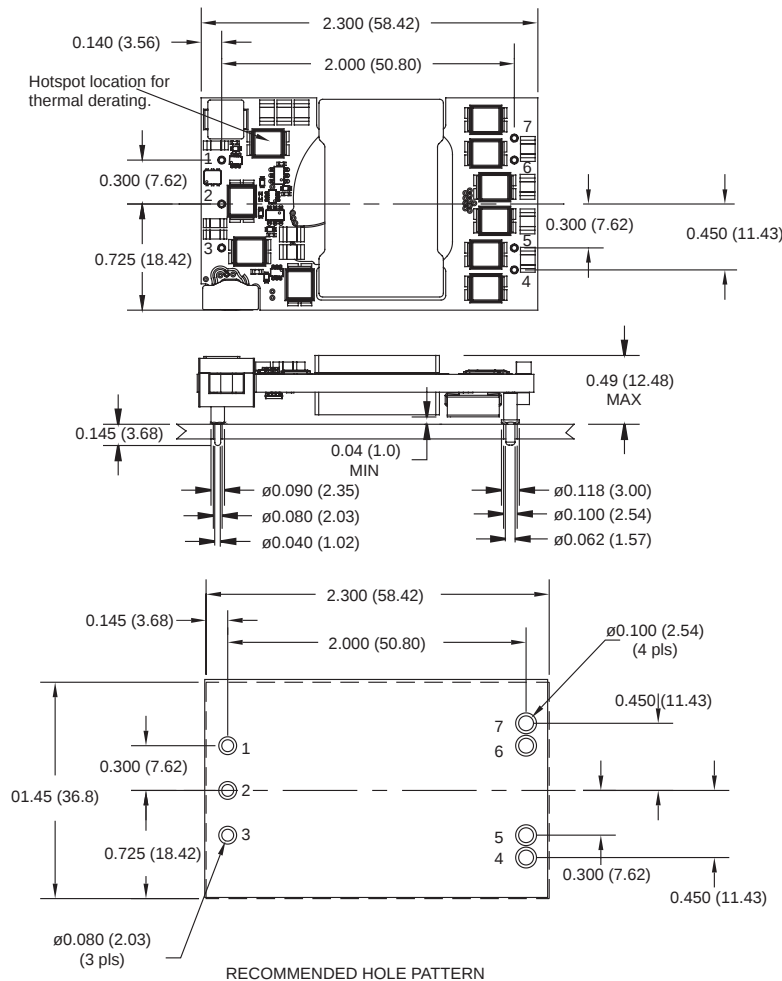


Notes

- 1 Recommended input fusing is a 20 A HRC 250 V rated fuse.
- 2 Measured with external filter. See Application Note 209 for details.
- 3 Start-up into resistive load.
- 4 Peak to peak measured without external Pi filter. Significant reduction possible with external filter. See Application Note 209 for details.
- 5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 6 Active-low remote ON/OFF option is also available. Please add the suffix '-R' to the part number, e.g. IBC60AQN4896-REJ.
- 7 Maximum output power at maximum input voltage.
- 8 Efficiency at 100% maximum output voltage.
- 9 After an input overvoltage latch off, the input voltage must be returned to 55 V or lower for unit to restart.

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

Mechanical Drawing



Pin Connections	
Pin Number	Function
1	+ Vin
2	Remote ON/OFF
3	-Vin
4	+Vout
5	-Vout
6	+Vout
7	-Vout

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