

## IBC Eighth-Brick Series 2nd Generation IBC



**Total Power:** 200 - 300W  
**Input Voltage:** 36 - 75Vdc

### Special Features

- 48 V input with isolated 12 V output
- Ultra-high efficiency, 95.5% 12 V @ 25 A
- Unprecedented usable output power levels
- High power density (362 W/in<sup>3</sup>) open-frame technology
- Wide operating ambient temperature range
- Industry standard eighth-brick footprint and pinout
- Low profile, 0.40" (10.2 mm)
- Meets basic insulation requirements of EN60950-1
- Remote ON/OFF and over-temperature protection
- Available RoHS compliant
- 2 year warranty

### Safety

- UL/cUL 60950-1, 1st Edition
- EN 60950-1 VDE

## Electrical Specifications

Output		
Output setpoint accuracy:		See table
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):	IBC25AET4812 IBC20AES4812 IBC17AEW4812	9.70 - 13.40 Vdc 11.52 - 12.48 Vdc 11.40 - 12.60 Vdc
Minimum load:		0 A
Overshoot:	At turn on and turn-off	None
Undershoot:		None
Ripple and noise: 5 - 20 MHz	(See note 2)	60 mV pk-pk typ. 20 mV rms typ.
Input		
Input voltage range:		See table
Input current:	Remote OFF	6 mA typ.
Input current (max.):	(See note 1)	6.9 A max. @ Io max. and Vin = min. rated
Input reflected ripple: (See note 4)	IBC25AET4812 IBC20AES4812 IBC17AEW4812	550 mA (pk-pk) 230 mA (pk-pk) 230 mA (pk-pk)
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	40 V
IBC25AET4812:	Power-down	38 V
IBC20AES4812:	Power up	35.2 V
IBC17AEW4812:	Power down	34 V
Startup time (see note 3):	Power-up	15 ms
	Remote ON/OFF	5 ms

### EMC Characteristics

Immunity:		
ESD air enclosure:	EN61000-4-2 8 kV, 6 kV	(Air contact)
Input transients:	IBC25AET4812	60 V. 100 ms
	IBC20AES4812	60 V. 100 ms
	IBC17AEW4812	100 V. 100 ms

### General Specifications

Efficiency:	See table	
Basic insulation:	Input/output	2250 Vdc
Switching frequency:	Fixed	600 kHz typ.
Approvals and standards (see note 5):	EN60950-1 VDE UL/cUL60950-1	
Material flammability:	UL94V-0	
Weight:	33 g (1.16 oz)	
MTBF	5,500,000 hours	
Representative model:	Telcordia Tech SR-332 48 Vin, 40 °C, 50% load ground benign	

## Environmental Specifications

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

### Protection

Short-circuit:	Hiccup	
Overvoltage:	(See note 9)	Non-latching
Thermal:	125 °C hot spot	

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

### Ordering Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typ.)	Set Point Accuracy %	Regulation <sup>2</sup> (typical)		Model Number
							Line %	Load %	
300 W	42 - 53 Vdc	12 V	0 A	25 A	95.5%	---	+10, -12.5%	±1.5%	IBC25AET4812J
240 W	42 - 53 Vdc	12 V	0 A	20 A	94.5%	±0.25%	±0.3%	-2/-1.5%	IBC20AES4812J
200 W	36 - 75 Vdc	12 V	0 A	17 A	94.0%	±0.25%	±1.0%	-3/+2%	IBC17AEW4812J

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

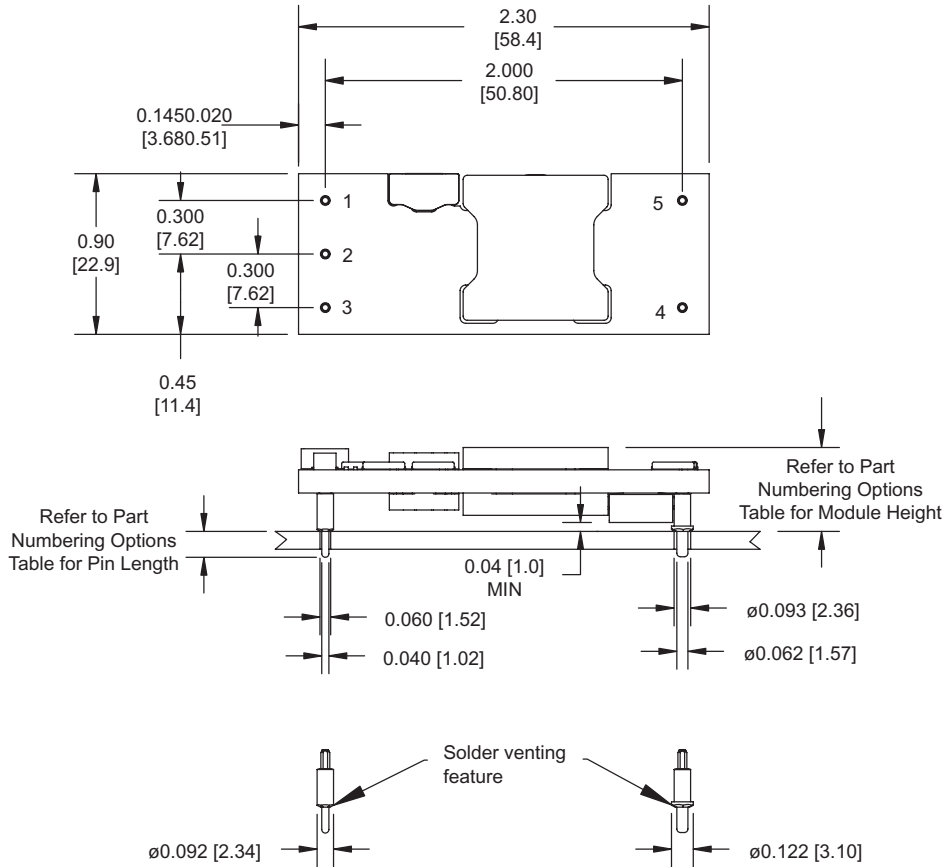
## Part Number System with Options

Product Family	Rated Output Current	Form Factor	Input Voltage Type	Input Voltage	Output Voltage	Remote ON/OFF Logic	Module Height	Pin Length Options	RoHS Compliance <sup>(7,8)</sup>
<b>IBC</b>	<b>17A</b>	<b>E</b>	<b>W</b>	<b>48</b>	<b>12</b>	<b>- R</b>	<b>A</b>	<b>N</b>	<b>J</b>
IBC Intermediate Bus Converter 2nd Generation	17 A = 17 Amps etc.	E = Eighth-Brick Q = Quarter-brick S = Sixteenth-brick	T = Narrow Input Fixed Ratio S = Narrow Input Semi-reguatted N = Narrow Telecom Fixed Ratio W = Wide Telecom Semi-reguatted	48 = 48 V	12 = 12 V	Blank = Positive R = Negative (See Note 6)	A = Open-frame 0.40 in (10.2 mm) E = Open-rame, 0.45 in (11.4 mm)	Blank = 0.188 " (4.78 mm) N = 0.145 " (3.68 mm) K = 0.110 " (2.79 mm)	J = Pb-free (RoHS 6/6 compliant) Y = RoHS 5/6 compliant

### Notes

- 1 Recommended input fusing is a 20 A HRC 250 V rated fuse.
- 2 Measured with external filter. See Application Note 182 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 182 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. IBC17AEW4812-RAJ.
- 7 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 8 NOTICE: Some models do not support all options. Please contact your local Sales representative or use the on-line model number search tool at <http://www.powerconversion.com> to find a suitable alternative.

Mechanical Drawing



Dimensions in Inches (mm)  
Tolerances (unless otherwise specified)  
x.xx 0.02 (x.x 0.5)  
x.xxx 0.010 (x.xx 0.25)

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

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