



key features

- new "quarter-brick"
- high power density - up to 150W
- open-frame packaging
- 100C baseplate operation
- water washable
- output ranging from 2.5V to 15V
- 1500 VDC isolation
- positive or negative enable logic

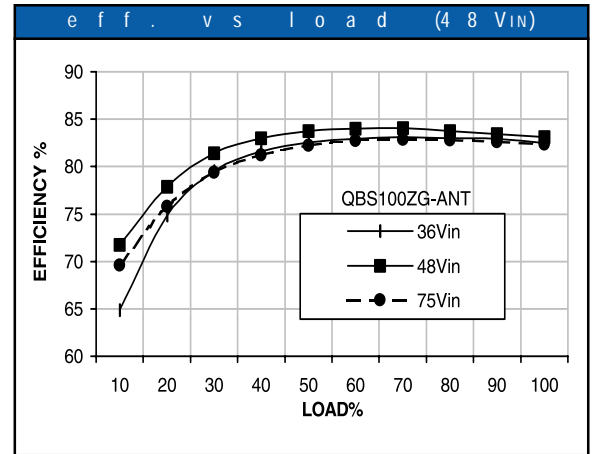
The QBS series of single output DC/DC converters provide up to 150W of output power in the new industry standard quarter brick package and footprint. The QBS converters feature IPD's proprietary open frame packaging concept, along with planar magnetics, to provide maximum usable power with minimal thermal constraints. The QBS series is especially suited to Telecom, Networking, and Industrial applications. These units are fully compatible with production board washing processes, and are manufactured in IPD's ISO9001 factory.

technical specifications

input	
voltage range	18 - 36 VDC
24 VDC nominal	36 - 75 VDC
48 VDC nominal	shunt diode
input reverse voltage protection	

output	
setpoint accuracy	±1%
line regulation V_{in} min. - V_{in} max., I_{out} rated	0.2% V_o
load regulation I_{out} min. - I_{out} max., V_{in} nom.	0.5% V_o
remote sense headroom	0.5 VDC
minimum output current	10 %
dynamic regulation, loadstep	25% I_o
Pk deviation	4% V_o
settling time	500 μ s
voltage trim range	±10%
short circuit and overcurrent protection	shutdown
current limit threshold range, % I_o rated	110 - 140%
short circuit current limit	200% I_o
OVP trip range	115 - 140% V_{out} nom.
UVP trip range	70 - 90% V_{out} nom.
OVP/UVP type	latching

general	
turn-on time	30 ms
remote shutdown	positive or negative logic
remote shutdown reference	V_{in} negative
switching frequency	400 KHz
isolation	
input - output	1500 VDC
input - case	1050 VDC
output - case	1050 VDC
temperature coefficient	0.02 ppm/°C
case temperature	
operating range	-40 to +100°C
storage range	-40 to +125°C
thermal shutdown range	105 to 115°C
vibration, 3 axes, 5 min each	5 g, 10-55Hz
MTBF† (Bellcore TR-NWT-000332)	2.5 x 10 ⁶ hrs
safety	UL 1950, CSA 22.2-950, EN60950
weight (approx.)	1.7 oz.



notes
† MTBF predictions may vary slightly from model to model.
Specifications typically at 25°C, normal line, and full load - unless otherwise stated.

m o d e l s

V _{IN} (volts)	V _{IN} range (volts)	I _{IN} max.* (amps)	V _{OUT} (volts)	I _{OUT} rated (amps)	ripple & noise pk-pk (mV)	efficiency typ.**	model
24	18 - 36	2.90	2.5	15	100	76%	QBS038YD-A
24	18 - 36	3.50	3.3	15	100	80%	QBS050YE-A
24	18 - 36	5.20	5	15	100	84%	QBS075YG-A
24	18 - 36	6.80	12	8.33	150	85%	QBS100YH-A
24	18 - 36	8.10	12	10	150	83%	QBS120YH-A
24	18 - 36	6.80	15	6.67	150	85%	QBS100YJ-A
24	18 - 36	10.0	15	10	150	83%	QBS150YJ-A
48	36 - 75	1.40	2.5	15	100	77%	QBS038ZD-A
48	36 - 75	1.70	3.3	15	100	81%	QBS050ZE-A
48	36 - 75	2.50	3.3	20	100	78%	QBS066ZE-A
48	36 - 75	2.50	5	15	100	83%	QBS075ZE-A
48	36 - 75	3.45	5	20	100	83%	QBS100ZG-A
48	36 - 75	3.30	12	8.33	150	86%	QBS100ZH-A
48	36 - 75	4.00	12	10	150	84%	QBS120ZH-A
48	36 - 75	3.30	15	6.67	150	86%	QBS100ZJ-A
48	36 - 75	5.10	15	10	150	84%	QBS150ZJ-A

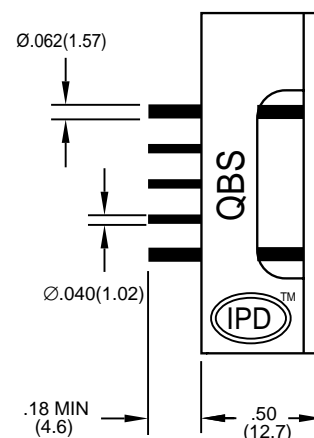
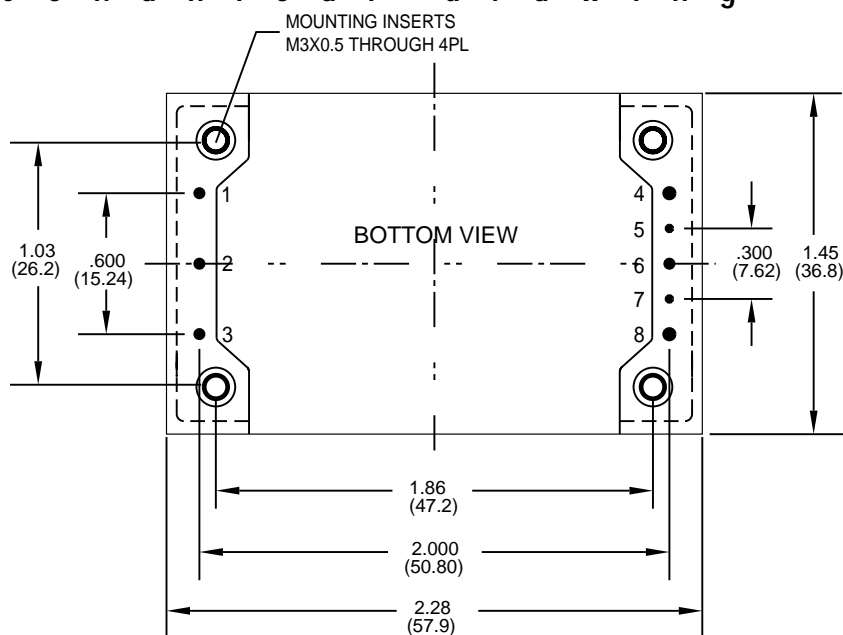
* max input current at minimum input voltage, maximum rated output power

** at nominal V_{IN}, rated output.

specifications are subject to change without notice.

for negative logic, add suffix "N" to model number

m e c h a n i c a l d r a w i n g



t h e r m a l i m p e d a n c e	
natural convection	10.1 C/W
100 LFM	8.0 C/W
200 LFM	5.4 C/W
300 LFM	4.4 C/W
400 LFM	3.4 C/W

Thermal impedance data is dependant on many environmental factors. The exact thermal performance should be validated for specific application.

p i n f u n c t i o n	
1	-V _{IN}
2	On/Off
3	+V _{IN}
4	-V _{OUT}
5	-Sense
6	Trim
7	+Sense
8	+V _{OUT}

t o l e r a n c e s (unless otherwise specified)	
Inches	(Millimeters)
.XX ± .020	.X ± 0.5
.XXX ± .010	.XX ± .25
Pin:	
± .002	± .05