

QBR125 Series

Integral Metal Substrate



High Efficiency90% @ 5.0V/20A
88% @ 3.3V/20A
86% @ 2.5V/20A

Standard Footprint 2.30" X 1.45"

Low Profile

Wide Input Range 2:1

Remote On/Off

External Trim

Under-Voltage Lockout

-40C To 105C Operation

Overvoltage & Short Circuit Protection

1500Vdc Isolation

The QBR Series quarter size dc/dc converter provides 125 watts power or 25A current with industry standard compatible pin assignments. 110W/in cubed power density, 0.34" converter profile and 90% efficiency allow a system designer to remove the heat sink to save the space in all dimensions. The efficient SR technology combining with patented "buck Reset" topology reduce total power loss; creative design technology and highly thermal conductivity IMS base-plate eliminate the hot spot and give converters good thermal performance. High efficiency SR stage with reduced component count circuit design result in good reliability. Option of remote control logic is available for different control signal. The QBR series quarter size dc/dc converters are designed to meet the very high efficiency/high density requirement of more compactly modern applications. Open frame and enclosure with full potting packages are also available with international safety approvals.

Model Selection Guide

INPUT		OUTPUT		EFFICIENCY	MODEL NUMBER
18V-36V	2.8A	37.5W	1.5V-25A	79%	QBR10024S1V5-ABCD
18V-36V	3.3A	45.0W	1.8V-25A	81%	QBR10024S1V8-ABCD
18V-36V	3.6A	50.0W	2.0V-25A	83%	QBR10024S2V0-ABCD
18V-36V	4.3A	62.5W	2.5V-25A	85%	QBR10024S2V5-ABCD
18V-36V	5.4A	82.5W	3.3V-25A	87%	QBR10024S3V3-ABCD
18V-36V	8.0A	125W	5.0V-25A	89%	QBR10024S5V0-ABCD
36V-75V	1.5A	37.5W	1.5V-25A	79%	QBR10048S1V5-ABCD
36V-75V	1.7A	45.0W	1.8V-25A	81%	QBR10048S1V8-ABCD
36V-75V	1.8A	50.0W	2.0V-25A	83%	QBR10048S2V0-ABCD
36V-75V	2.2A	62.5W	2.5V-25A	85%	QBR10048S2V5-ABCD
36V-75V	2.8A	82.5W	3.3V-25A	87%	QBR10048S3V3-ABCD
36V-75V	4.1A	125W	5.0V-25A	89%	QBR10048S5V0-ABCD

* Options for part number system are as follows:

A (Compatibility Option): "L" for Lucent compatible only.

B (Enable Logic): "P" for Positive or "N" for Negative.

C (Pin Dimension): "O" for Input Pin: 0.06"/Output: 0.06"/Length 0.24"

"1" for Input Pin: 0.06"/Output: 0.06"/Length 0.12"

"2" for Input Pin: 0.04"/Output: 0.06"/Length 0.24"

"3" for Input Pin: 0.04"/Output: 0.06"/Length 0.24"

D (Package Option): "E" for Enclosure with silicone potted or "O" for Open frame

Acute Power Inc., 129 Bank St. Attleboro, MA. 02703 (U.S.A.)

PH:(508) 223-1655,Fax: (508) 226-3690 www.acutepower.com

Specifications All specifications Are Typical @ Nominal Input, Full Load & 25C Unless Otherwise Stated

Input		
Input voltage		See Table
Ripple current	See note 1	5% I _{in} (nom)
UVLO	Start up Shut down	95% V _{in} (min) 90% V _{in} (min)
Remote control	High Low	3V to +V _{in} 0V to 1V

Output		
Voltage accuracy	Typical	+/- 1%
Line regulation		+/- 0.2%
Load regulation	10%~100%	+/- 0.2%
Ripple & noise	20MHz BW	1% V _o (p-p)
Temperature drift		+/- 0.02%/0C
Current limits		110%~125%
Voltage trim		+/- 10%

General		
Efficiency	Typical	See table
Frequency	Typical	360KHz
Isolation	In/Case In/Out Out/Case	1500V 1500V 500V
MTBF	MIL-217F	0.5 M/hrs. @ GB.
OTP	Internal	110C
Weight		1.9 oz or 1.1 oz
Size		2.30"x1.45"x0.34"

Environmental		
Temperature	Operation Storage	-40C to +100C -55C to +125C
Altitude	Operation Storage	15000 feet max 50000 feet max

Notes:

- 20MHz bandwidth current probe measured without an external filter.
- Output ripple and noise is measured by using the proposed test method of Acute Power, Inc.
- Input fusing is required and recommended to base on surge current and maximum input current.
- Case and base-plate should be connected to AC ground to maintain good EMC performance.
- Case and base-plate should be inaccessible to prevent the damage from highly operating temperature.
- Contact Acute Power, Inc. for non-standard inquiry.

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Mechanical Specifications

