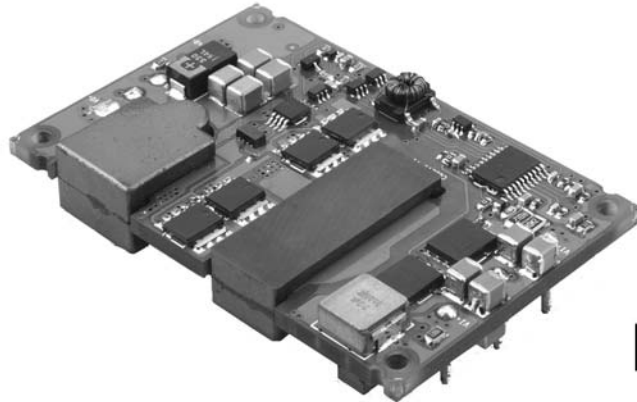


**PART NUMBER:** VQB125 series

**DESCRIPTION:** DC/DC converter

**features**

- 40-125 W isolated output
- efficiency to 92%
- fixed switching frequency
- monotonic start-up into pre-biased load
- input under-voltage protection
- over-temperature protection
- over current protection
- remote ON/OFF
- industry standard quarter-brick package
- fully isolated 2250 VDC



| model number    | input voltage | output voltage | output current | input current |           | efficiency |
|-----------------|---------------|----------------|----------------|---------------|-----------|------------|
|                 |               |                |                | no load       | full load |            |
| VQB125-D48-S1   | 36-75 VDC     | 1.0 VDC        | 40 A           | 60 mA         | 1004 mA   | 83%        |
| VQB125-D48-S1R2 | 36-75 VDC     | 1.2 VDC        | 40 A           | 60 mA         | 1176 mA   | 85%        |
| VQB125-D48-S1R5 | 36-75 VDC     | 1.5 VDC        | 40 A           | 60 mA         | 1436 mA   | 87%        |
| VQB125-D48-S1R8 | 36-75 VDC     | 1.8 VDC        | 40 A           | 60 mA         | 1705 mA   | 88%        |
| VQB125-D48-S2R5 | 36-75 VDC     | 2.5 VDC        | 40 A           | 60 mA         | 2341 mA   | 89%        |
| VQB125-D48-S3R3 | 36-75 VDC     | 3.3 VDC        | 35 A           | 60 mA         | 2704 mA   | 89%        |
| VQB125-D48-S5   | 36-75 VDC     | 5 VDC          | 25 A           | 60 mA         | 2894 mA   | 90%        |
| VQB125-D48-S9   | 36-75 VDC     | 9 VDC          | 13 A           | 60 mA         | 2679 mA   | 91%        |
| VQB125-D48-S12  | 36-75 VDC     | 12 VDC         | 10 A           | 60 mA         | 2717 mA   | 92%        |



**PART NUMBER:** VQB125 series

**DESCRIPTION:** DC/DC converter

## INPUT

|                       |                            |         |
|-----------------------|----------------------------|---------|
| input voltage range   | 48V:                       | 36-75V  |
| under voltage lockout | 48 Vin power up            | 35 V    |
|                       | 48 Vin power down          | 33 V    |
| input filter          |                            | LC type |
| logic compatibility   | CMOS or open collector TTL |         |
| module ON             | open circuit or logic high |         |
| module OFF            | <12 VDC                    |         |

## OUTPUT

|                              |                      |                 |
|------------------------------|----------------------|-----------------|
| voltage accuracy             |                      | ±1.0% max.      |
| transient response:          | 25% step load change | <500 µS         |
| ripple & noise               | 20MHz BW             | 100 mV p-p max. |
| temperature coefficient      |                      | ±0.03%/°C max.  |
| line regulation <sup>1</sup> | single/dual          | ±0.2% max.      |
| load regulation <sup>2</sup> | single/dual          | ±0.5% max.      |
| over-voltage protection      |                      | 115-140%        |
| output current limit         | % nom. output        | 110-140%        |
| short circuit protection     | continuous/hiccup    |                 |
| external trim adj.           |                      | ±10%            |

## GENERAL SPECIFICATIONS

|                             |                                           |                          |
|-----------------------------|-------------------------------------------|--------------------------|
| efficiency                  |                                           | see table                |
| isolation voltage           |                                           | 2250VDC min.             |
| isolation resistance        |                                           | 10 <sup>7</sup> Ohm min. |
| switching frequency         |                                           | 250KHz, typ.             |
| over temperature protection |                                           | 120°C typ.               |
| operating temp. range       |                                           | -40°C to 85°C            |
| storage temp.               |                                           | -40°C to 125°C           |
| dimensions                  | 2.3x1.45x0.36 inches<br>(58.4x36.8x9.2mm) |                          |
| weight                      | 50 g                                      |                          |

### NOTES:

1. measured from high line to low line
2. measured from full load to 1/4 load
3. suffix "N" to the model number with negative logic remote ON/OFF  
module ON <1.2 VDC  
module OFF open circuit or logic high
4. output ripple and noise is measured with 10 µF tantalum and 1 µF ceramic capacitor across output.

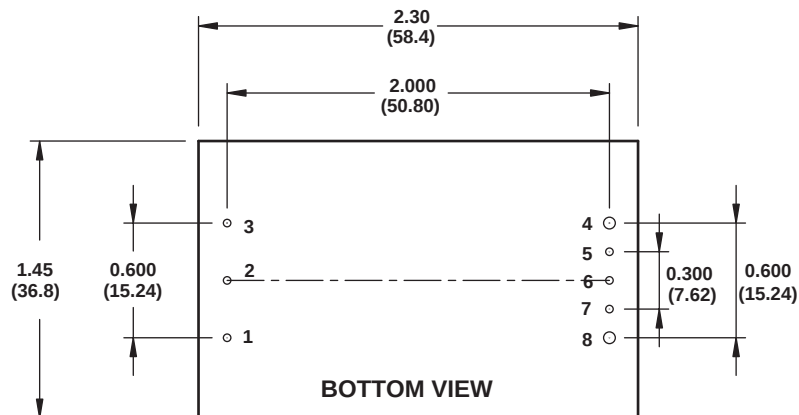


**PART NUMBER:** VQB125 series

**DESCRIPTION:** DC/DC converter

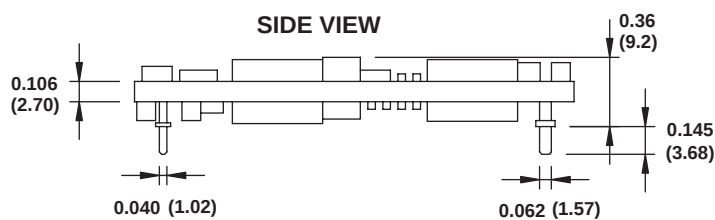
## DIMENSIONS (mm)

All Dimensions in Inches(mm)  
Tolerance .xx  $\pm$  .02 (.x  $\pm$  0.5)  
.xxx  $\pm$  .010 (.xx  $\pm$  0.25)



### PIN CONNECTION

| Pin | Function |
|-----|----------|
| 1   | +Vin     |
| 2   | ON/OFF   |
| 3   | -Vin     |
| 4   | -Vout    |
| 5   | -SENSE   |
| 6   | Trim     |
| 7   | +SENSE   |
| 8   | +Vout    |



All Specifications Typical At Nominal Line, Full Load and 25°C Unless Otherwise Noted .

## DERATING CURVE

