

**SERIES:** VQB100R | **DESCRIPTION:** DC-DC CONVERTER

**FEATURES**

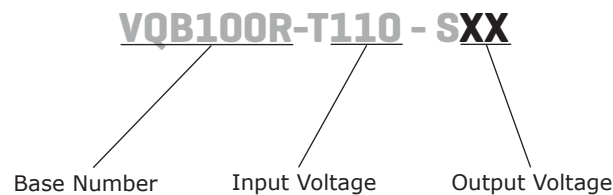
- up to 100 W isolated output
- industry standard quarter brick package
- 3:1 input range (66~160 V)
- single output from 5~24 V
- 2,250 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 92%



MODEL	input voltage range	output voltage	output current max	output power max	ripple and noise <sup>1</sup> max	efficiency typ
	(Vdc)	(Vdc)	(A)	(W)	(mVp-p)	(%)
VQB100R-T110-S5	66 ~ 160	5	20	100	100	90
VQB100R-T110-S12	66 ~ 160	12	8.4	100	150	92
VQB100R-T110-S24	66 ~ 160	24	4.2	100	240	91

Notes: 1. ripple and noise are measured at 20 MHz BW with 10µF tantalum capacitor and 1µF ceramic capacitor across output

**PART NUMBER KEY**



## INPUT

parameter	conditions/description	min	typ	max	units
operating input voltage		66	110	160	Vdc
input surge voltage	100 ms max.			180	Vdc
under voltage lockout	power up		62		Vdc
	power down		56		Vdc
positive logic remote on/off <sup>1</sup>					
filter	PI type				
Notes:	1. logic compatibility, open collector ref to -input Module ON, >3.5 ~ 75 Vdc or open circuit Module OFF, <1.8 Vdc				

## OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	measured from high line to low line			±0.2	%
load regulation	measured from full load to zero load			±0.2	%
start-up time			45		ms
voltage accuracy				±1.5	%
transient response	25% step load change error band recover time			±5 200	% Vout µs
adjustability <sup>2</sup>			±10		%
switching frequency	100% load, input voltage range		200		kHz
temperature coefficient			±0.03		%/°C
Notes:	2. trim-up: connect a resistor between the trim pin and -Sense trim-down: connect a resistor between the trim pin and +Sense				

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	%Vo	115		140	%
short circuit protection	continuous				
current limit	% nominal output current	110		180	%
thermal shutdown case temp.			105		°C

## SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output	2,250			Vdc
	input to case	2,250			Vdc
	output to case	1,500			Vdc
isolation resistance		10			MΩ
isolation capacitance			1,000		pF
safety approvals	UL 60950-1				
EMI/EMC	EN 50155 (EN 50121-3-2) with external filter				
RoHS compliant	yes				

## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
case operating temperature		-40		100	°C
storage temperature		-55		105	°C
humidity	non-condensing			95	%

## MECHANICAL

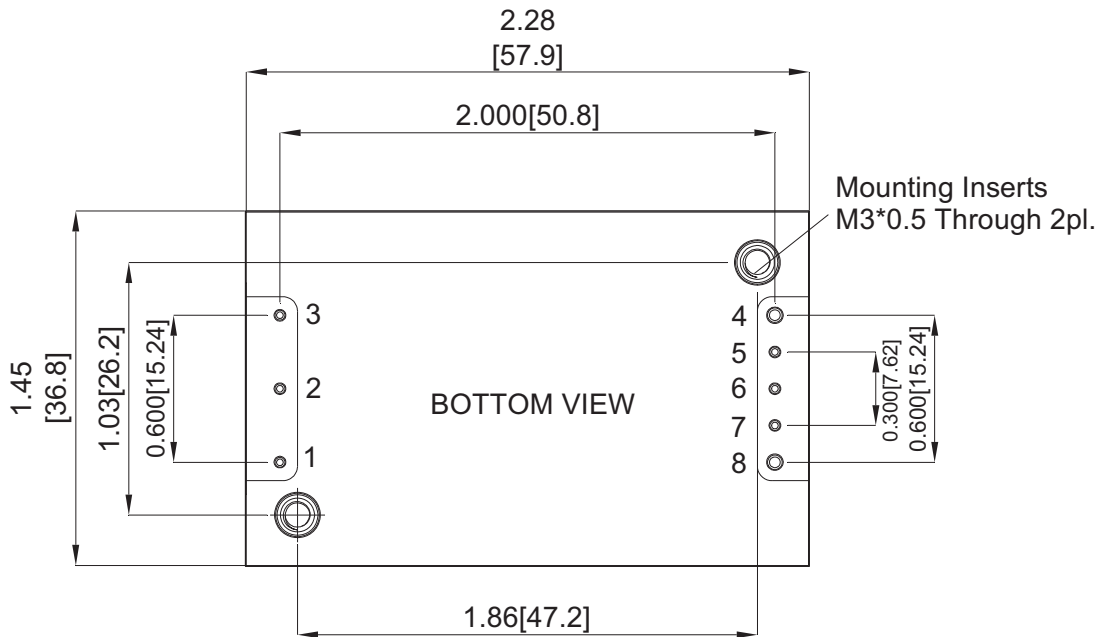
parameter	conditions/description	min	typ	max	units
dimensions	2.28 x 1.45 x 0.5 (57.9 x 36.8 x 12.7 mm)				inch
case material	aluminum baseplate with plastic case				
weight			61.5		g

## MECHANICAL DRAWING

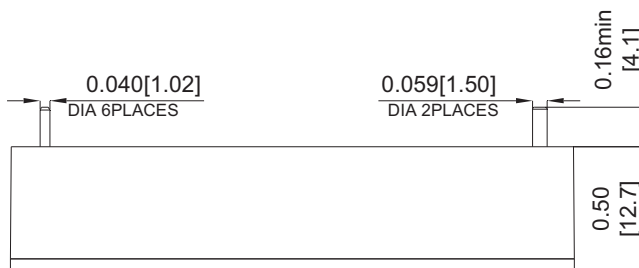
units: inches [mm]

tolerance: x.xx ± 0.2inches [±0.5mm]

x.xxx ± 0.1inches [±0.25mm]



PIN CONNECTIONS	
PIN	FUNCTION
1	+Vin
2	On/Off
3	-Vin
4	-Vo
5	-S
6	TRIM
7	+S
8	+Vo



Note: All specifications measured at 25°C, nominal input voltage, and full load unless otherwise noted.

## REVISION HISTORY

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rev.	description	date
1.0	initial release	06/20/2012
1.01	misc. updates, added product photo	11/13/2012
1.02	updated input voltage range and drawing	01/29/2013
1.03	updated spec	03/18/2013
1.04	updated features section	05/30/2013

The revision history provided is for informational purposes only and is believed to be accurate.



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