

PART NUMBER: VBD20 series

DESCRIPTION: DC/DC converter

features

- 20W isolated output
- efficiency to 88%
- 2:1 input range
- regulated outputs
- continuous short circuit protection
- Pi input filter



model number	input voltage	output voltage	output current		input current		efficiency
			min.	max.	no load	full load	
VBD20-D24-S1R8	18-36VDC	1.8VDC	0mA	6000mA	30mA	523mA	86%
VBD20-D24-S2R5	18-36VDC	2.5VDC	0mA	6000mA	30mA	718mA	87%
VBD20-D24-S3R3	18-36VDC	3.3VDC	0mA	5000mA	40mA	722mA	89%
VBD20-D24-S5	18-36VDC	5VDC	0mA	4000mA	60mA	926mA	90%
VBD20-D24-S12	18-36VDC	12VDC	0mA	1670mA	20mA	938mA	89%
VBD20-D24-S15	18-36VDC	15VDC	0mA	1330mA	20mA	934mA	87%
VBD20-D24-D12	18-36VDC	±12VDC	42mA	835mA	20mA	938mA	89%
VBD20-D24-D15	18-36VDC	±15VDC	33mA	670mA	20mA	941mA	89%
VBD20-D48-S1R8	36-75VDC	1.8VDC	0mA	6000mA	30mA	262mA	86%
VBD20-D48-S2R5	36-75VDC	2.5VDC	0mA	6000mA	30mA	359mA	87%
VBD20-D48-S3R3	36-75VDC	3.3VDC	0mA	5000mA	30mA	386mA	89%
VBD20-D48-S5	36-75VDC	5VDC	0mA	4000mA	40mA	463mA	90%
VBD20-D48-S12	36-75VDC	12VDC	0mA	1670mA	15mA	469mA	89%
VBD20-D48-S15	36-75VDC	15VDC	0mA	1330mA	15mA	467mA	89%
VBD20-D48-D12	36-75VDC	±12VDC	42mA	835mA	10mA	469mA	89%
VBD20-D48-D15	36-75VDC	±15VDC	33mA	670mA	10mA	471mA	89%

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INPUT

input voltage range	24V	18-36V
	48V	36-75V
under voltage lockout	24Vin power up	17V
	power down	16V
	48Vin power	34V
	power down	33V
input filter type	PI type	
positive logic remote on/off control:		
logic compatibility	CMOS or open collector TTL	
module ON	>5.5VDC or open circuit	
module OFF	<1.2VDC	

OUTPUT

voltage accuracy	$\pm 1.5\%$ max.	
transient response	single 25% step load change	<500 μ sec.
ripple & noise	20MHz BW ³ ,	75mV p-p., max
temperature coefficient	$\pm 0.03\%/^{\circ}\text{C}$ max	
short circuit protection	continuous	
line regulation ¹	single / dual output	$\pm 0.2\%$ / $\pm 0.5\%$ max
load regulation ²	$\pm 1.0\%$ max	
over voltage protection	Zener or TVS clamp	
external trim adj. range	$\pm 10\%$	

GENERAL SPECIFICATIONS

efficiency	see table	
isolation voltage	1500VDC min.	
isolation resistance	10^8 ohms min	
switching frequency	350KHz, Type	
operating temperature range	-40°C to 85°C	
EMI/RFI	six sided continuous shield	
derating, Above 71°C	linearly to zero power at + 100°C	
case temperature	100°C max	
storage temperature range	-55°C to +105°C	
dimensions	2.0x1.0x0.4 inches (50.8x25.4x10.2mm)	
case material	black coated copper with	
non-conductive base		

NOTES:

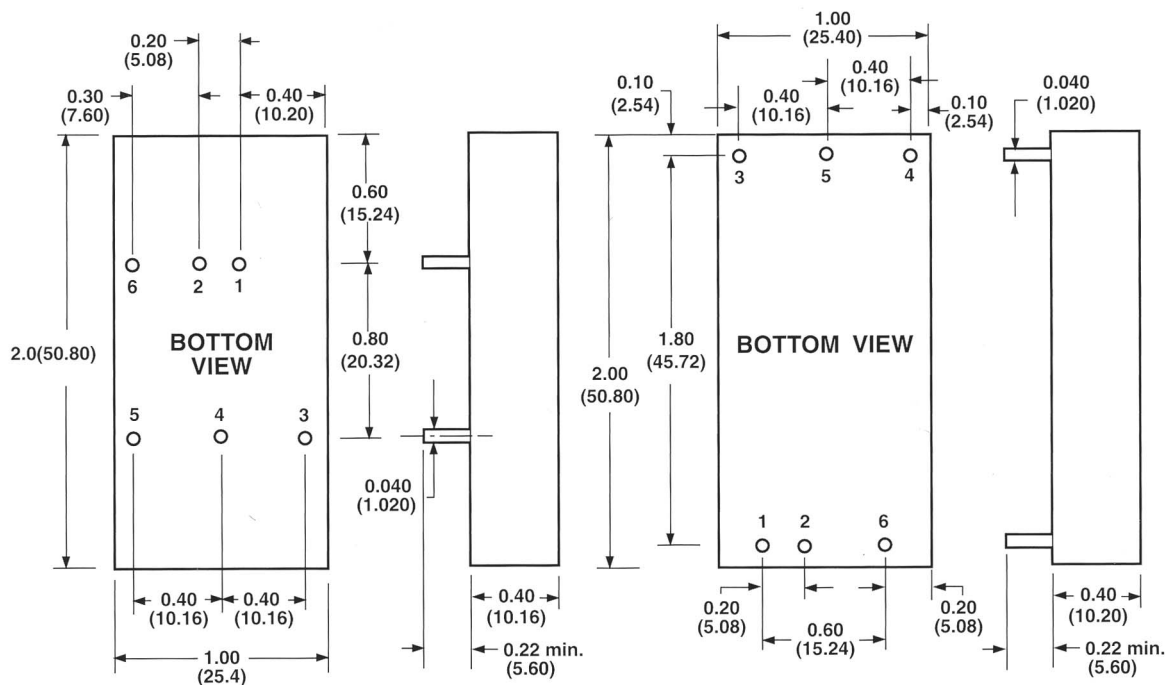
1. Measured from high line to low line
2. Measured from full load to 1/10 load
3. The output noise is measured with 0.1 μ F ceramic capacitor
4. Suffix "S" to the model number with alternative pin configuration



DESCRIPTION: DC/DC converter

DIMENSIONS (mm)

ALTERNATE PIN CONFIGURATION (suffix "-S")



tolerance: inches .xx = ± 0.04 , .xxx = ± 0.010
 mm .xx = ± 1.0 , .xxx = ± 0.25

Pin #	Single Output	Dual Output
	Function	Function
1	+V Input	+V Input
2	-V Input	-V Input
3	+V Output	+V Output
4	Trim	Common
5	-V Output	-V Output
6	Remote ON / OFF	

DERATING CURVE

