

SERIES: VFB600 | **DESCRIPTION:** DC-DC CONVERTER

FEATURES

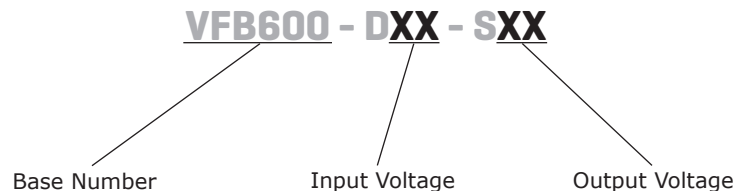
- up to 700 W isolated output
- industry standard full brick package
- 2:1 input range (18~36 V, 36~75 V)
- single output from 12~48 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 92%



MODEL	input voltage range (Vdc)	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise ² max (mVp-p)	efficiency typ (%)
VFB600-D24-S12 ¹	18 ~ 36	12	50	600	120	89
VFB600-D24-S24	18 ~ 36	24	25	600	240	91
VFB600-D24-S28 ¹	18 ~ 36	28	21.5	600	280	90
VFB600-D24-S32 ¹	18 ~ 36	32	18.75	600	320	91
VFB600-D24-S48	18 ~ 36	48	12.5	600	480	92
VFB600-D48-S12 ¹	36 ~ 75	12	50	600	120	90
VFB600-D48-S24	36 ~ 75	24	25	600	240	91
VFB600-D48-S28 ¹	36 ~ 75	28	25	700	280	91
VFB600-D48-S32 ¹	36 ~ 75	32	18.75	600	320	92
VFB600-D48-S48	36 ~ 75	48	12.5	600	480	92

Notes: 1. UL approved
 2. Ripple and noise are measured at 20 MHz BW with 220 µF aluminum capacitor across the input. Add 470 µF aluminum, 1 µF ceramic, 10 µF tantalum capacitors across output.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units	
operating input voltage		18	24	36	Vdc	
		36	48	75	Vdc	
input current	100% load, Vin = 18 V for VFB600-D24 series		37.7		Vdc	
	100% load, Vin = 36 V for VFB600-D48 series		21.7		Vdc	
under voltage lockout	power up	24 V input	16	17	18	Vdc
		48 V input	15	16	17	Vdc
	power down	24 V input	34	35	36	Vdc
		48 V input	32	33	34	Vdc
over voltage protection	turn on	24 V input		38	Vdc	
		48 V input		77	Vdc	
	turn off	24 V input		40	Vdc	
		48 V input		80	Vdc	
positive logic remote on/off	Module ON	1		10	mA	
	Module OFF			0.01	mA	
filter	PI type					

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			±0.5	%
voltage accuracy				±1.5	%
transient response	25% step load change			500	µs
adjustability ¹		60		110	%
switching frequency	24 V input		250		kHz
	48 V input		300		kHz
temperature coefficient			±0.03		%/°C

Notes: 1. This is accomplished by connecting an external resistor between the +Vout and +Sense pin for both trim up and trim down. A fixed resistor will be added between the -Sense and TRIM pin.

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	%Vo	115		140	%
short circuit protection	continuous				
current limit		110		150	%
thermal shutdown case temp.			110		°C

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output	1,500			Vdc
	input to case	1,500			Vdc
	output to case	1,500			Vdc
isolation resistance		10			MΩ
isolation capacitance			4,000		pF
safety approvals	UL 60950-1, EN 60950-1				
RoHS compliant	yes				

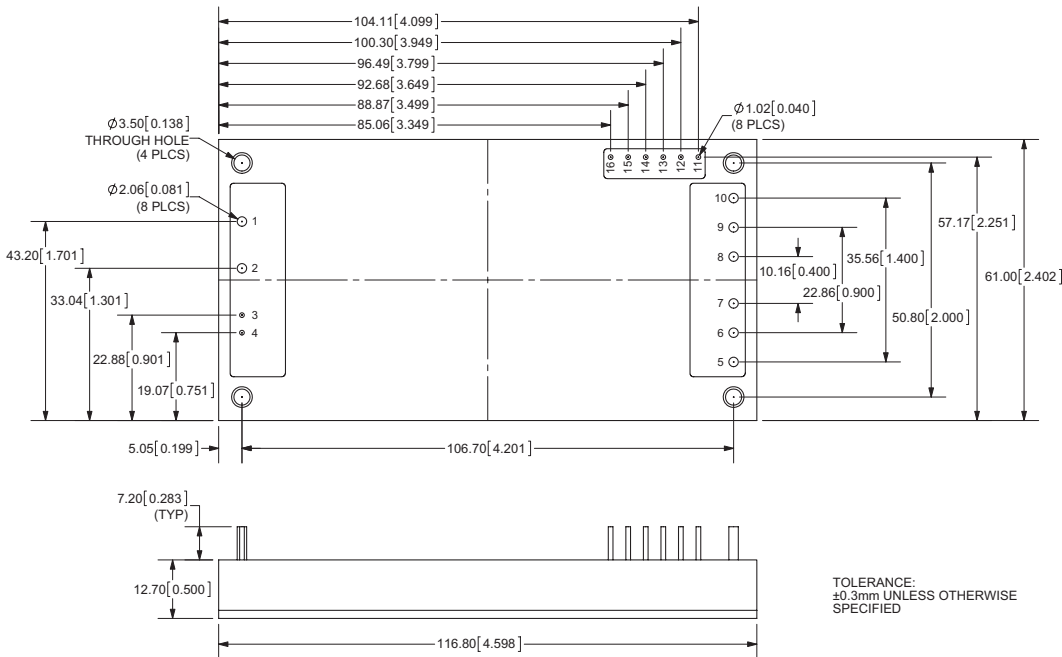
ENVIRONMENTAL

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	4.60 x 2.40 x 0.50 (116.8 x 61.0 x 12.7 mm)				inch
case material	aluminum baseplate with plastic case				
weight			260		g

MECHANICAL DRAWING



PIN CONNECTIONS	
PIN	FUNCTION
1	-Vin
2	+Vin
3	-On/Off
4	+On/Off
5 ~ 7	+Vo
8 ~ 10	-Vo
11	-S
12	+S
13	TRIM
14	PC/NC
15	IOC
16	AUX

TOLERANCE:
±0.3mm UNLESS OTHERWISE
SPECIFIED

All dimensions in mm[inches]:

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

REVISION HISTORY

rev.	description	date
1.0	initial release	06/27/2011
1.02	adjustability note added, V-Infinity branding removed	08/07/2012
1.03	updated spec	04/01/2013

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



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