

# 200VFI series

## Single & Dual Output DC/DC Converter



### DESCRIPTIONS

The 200VFI series is a family of cost effective 2 watt single and dual output DC/DC converters. 18 models operate from input bus voltages of 5V, 12V and 24V; producing output voltage levels of 5V, 12V, 15V,  $\pm 5V$ ,  $\pm 12V$  and  $\pm 15V$  for a wide range of choices.

The 200VFI series is ideal for a variety of applications including distributed power systems, mixed analog / digital subsystems, portable test equipment, local power networks and battery backed systems.

### OUTPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Output Voltage Set Point	$\pm 2.0$	$\pm 4.0$		% Output voltage at nominal line & FL
Output Voltage Balance (Duals)	$\pm 2.0$	$\pm 4.0$		% Equal Output Loads
Line Regulation	$\pm 0.3$	$\pm 0.5$		%; % Change / Percentage change in Input voltage
Load Regulation	$\pm 0.5$	$\pm 1.0$		% Output voltage measured from FL to 10% load
Ripple/Noise		30	50	mV p-p, Nom.Line @FL, 20MHz B.W., using 1 $\mu$ f bypass capacitor
Ripple/Noise			100	mV p-p, Over Line, Load & Temp., 20 MHz B.W., using 1 $\mu$ f bypass capacitor
Overload Protection	120			% Rated Output Load
Short Circuit Protection				Continuous
Temperature Coefficient	$\pm 0.01$	$\pm 0.02$		% per degree C

### FEATURES

- Single and Dual Output, 2 watt converter
- 4000 VAC Input/Output Isolation
- Available in 5, 12, and 24 VDC Inputs
- Wide Operating Temperature Range
- MTBF > 600,000 Hours
- Low Cost

### INPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Input Voltage				
5 VDC Input Models	4.5	5	5.5	VDC
12 VDC Input Models	10.8	12	13.2	VDC
24 VDC Input Models	13.5	24	26.4	VDC
Input Fuse Requirements				
5 VDC Input Models		1000		mA; Slow blow type
12 VDC Input Models		500		mA; Slow blow type
24 VDC Input Models		250		mA; Slow blow type
Input Filter				Pi Filter

### GENERAL CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Switching Frequency	25	50	80	kHz
Isolation Voltage	6000			VDC, 60 sec.
Isolation Resistance	10000			Mohm, 500VDC
Isolation Capacitance		20	30	pF, 100kHz, 1Volt
MTBF (MIL-HBK-217F)	0.6			Million Hours, +25°C, Ground Benign

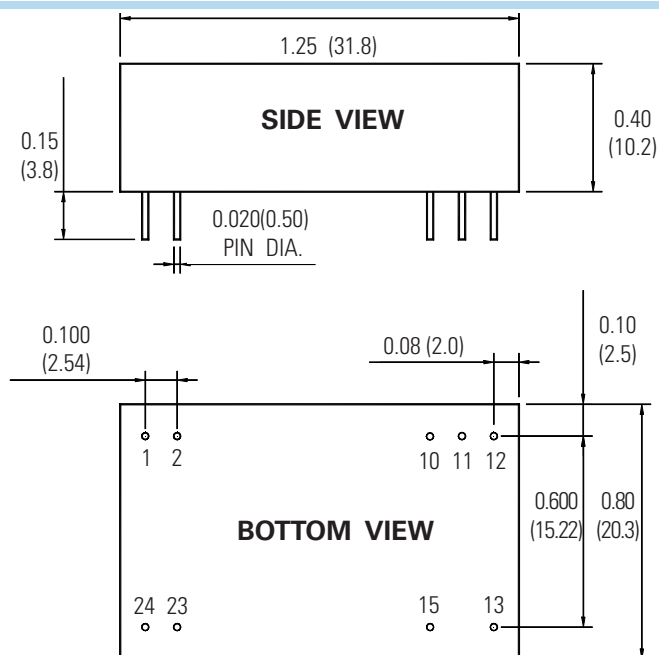
## ENVIRONMENTAL SPECIFICATIONS

	Min	Typ	Max	Unit/Comments
Operating Temp. Range	-25		+60	°C; Ambient
Operating Temp. Range	-25		+90	°C; Case
Storage Temp. Range	-40		+125	°C
Relative Humidity			+95	% Humidity; non-condensing
Cooling				Free-Air Convection

## PHYSICAL CHARACTERISTICS

	Unit/Comments
Case Size	1.25 X 0.80 X 0.40 inches (31.8 X 20.3 X 10.2 mm)
Case Material	Non-Conductive Black Plastic
Flammability	UL94V-0
Weight	12.4 Grams

## OUTLINE DRAWING



## PIN OUT CHART

Pins	Single	Dual
1	+ Vin	+ Vin
2	+ Vin	+ Vin
10	No Pin	Common
11	No Pin	Common
12	- Vout	No Pin
13	+ Vout	- Vout
15	No Pin	+ Vin
23	- Vin	- Vin
24	- Vin	- Vin

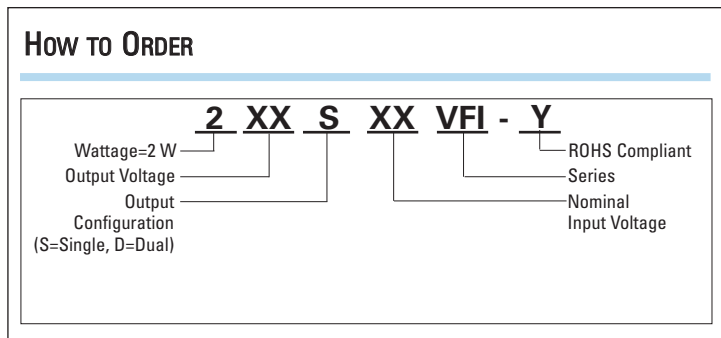
### Notes:

1. Unless otherwise specified dimensions are in inches (mm).

Tolerances	Inches	mm
	X.XX = ±0.02	X.X = ±0.5
	X.XXX = ±0.010	X.XX = ±0.25
Pin :	±0.002	±0.05

All specifications are typical at nominal input, nominal load and 25° C unless otherwise specified. External, low ESR, 10 microfarad (minimum) capacitor across input is recommended for operation.

## How To ORDER



## MODEL SELECTION CHART

Model	Nominal Input Voltage (VDC)	Output Voltage (VDC)	Full Load Output Current (mA)	No Load Input Current (mA)	Full Load Input Current (mA)	Reflected Ripple Current (mA)
205S5VFI	5	5	400	100	645	62
212S5VFI	5	12	165	100	629	63
215S5VFI	5	15	133	100	623	64
205S12VFI	12	5	400	50	269	62
212S12VFI	12	12	165	50	262	63
215S12VFI	12	15	133	50	260	64
205S24VFI	24	5	400	30	134	62
212S24VFI	24	12	165	30	131	63
215S24VFI	24	15	133	30	130	64
205D5VFI	5	±5	±100	100	476	42
212D5VFI	5	±12	±83	100	699	57
215D5VFI	5	±15	±66	100	695	57
205D12VFI	12	±5	±100	50	185	45
212D12VFI	12	±12	±83	50	281	59
215D12VFI	12	±15	±66	50	280	59
205D24VFI	24	±5	±100	30	93	45
212D24VFI	24	±12	±83	30	143	58
215D24VFI	24	±15	±66	30	142	58

# DERATING CURVES

