

PART NUMBER: VF-D250-DXXXXA-CF

DESCRIPTION: switching power supply

features

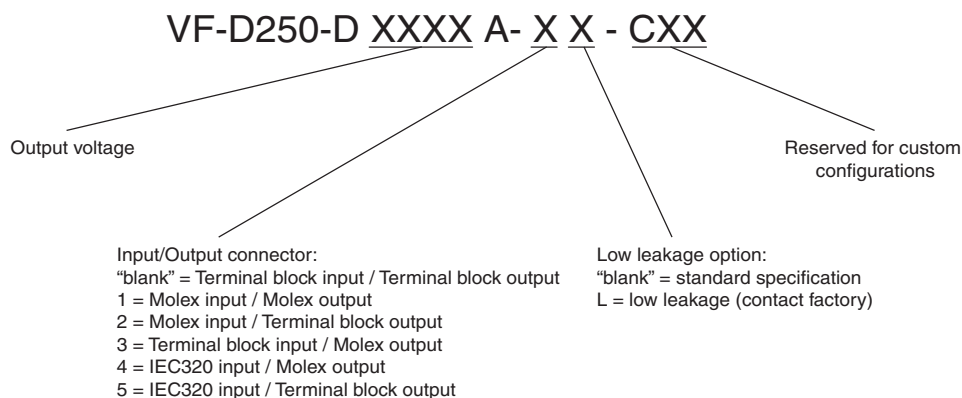
- power factor correction
- power good signal
- short circuit protection
- over load protection
- over voltage protection
- over temperature protection
- providing peak power 600W within 500µS duty duration
- low leakage current 500uA @ 240VAC
300uA @ 120VAC
- approved to UL, CUL, TUV, CE with CB scheme
- high power density: 10.4 watts/inch³
- dual output



MODEL	output ^{1, 2}	output current		regulation ³	ripple & noise ^{3, 4} (mVpp)
		convection ⁵	18 CFM ⁶		
VF-D250-D312A-CF	3.3/12 V	12/7 A	12/7 A	±5%	50mV/1%
VF-D250-D324A-CF	3.3/24 V	12/4 A	24/6 A	±5%	50mV/1%
VF-D250-D512A-CF	5/12 V	12/7 A	24/12 A	±5%	±1%
VF-D250-D524A-CF	5/24 V	12/4 A	24/6 A	±5%	±1%
VF-D250-D548A-CF	5/48 V	12/2 A	24/3 A	±5%	±1%
VF-D250-D1224A-CF	12/24 V	7/4 A	12/6 A	±5%	±1%

notes:

- 1 Output is fully isolated.
- 2 Output voltage is measured at output power connector.
- 3 1% minimum load is required to maintain the ripple and regulation.
- 4 Ripple and noise is measured from 10 kHz to 20 MHz at output terminals with a 0.1 µF ceramic capacitor and 22 µF electrolytic capacitor in parallel.
- 5 135 W total combined power of V₁ and V₂ for VF-D250-D1224A-CF. 100 W for all other models.
- 6 250 W total combined power of V₁ and V₂ for VF-D250-D1224A-CF. 200 W for all other models.

CUSTOM CONFIG KEY


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INPUT

parameter	conditions/description	min	nom	max	units
input frequency		47		63	Hz
input voltage	90-132 / 180-264 auto-selectable	90/180		132/264	VAC
Input current	At 100-120 VAC			6	A
	At 200-240 VAC			3	A
inrush current	Peak measured at 230 VAC at full load, cold start			70	A
	Peak measured at 115 VAC at full load, cold start			35	A
power factor	Passive power factor correction meets EN61000-3-2 class A				

OUTPUT

parameter	conditions/description	min	nom	max	units
transient response	Output voltage returns to within 1% in less than 2.5 mS for a 50% load change. Peak transient does not exceed 5%.				
overshoot	Turn-on and turn-off overshoot shall not exceed 5% over nominal voltage.				
efficiency	Measured at 230 V and full load	70%			
turn on delay	At 120 VAC			1	second
hold up time	At 120 VAC and 80% of rated maximim load	20			ms
adjustability	Adjustable with built-in trim pot.	+/- 5%			
LED display	When green (LED1) is on the power supply is operating normally.				
power good	Designated as PG on the CN1. This signal goes TTL high 100-500 mS after the output reaches regulation. It goes low at least 1 mS before loss of regulation.				
fan drive	12 VDC/400mA for external fan				

PROTECTION CIRCUIT

parameter	conditions/description
input fuse	Built-in ac fuse. A blown fuse usually indicates permanent damage to the power supply serviceable by factory only.
overload	Current limiting starts at 110-140% of the rated output current in foldback mode and recovers automatically.
short circuit	Short circuit can be continuous. Recovers automatically upon removal of short.
output over-voltage	Output is protected agaist overvoltage. Unit shuts down and latches when voltage at output terminals exceeds 130%. AC input needs to be reset to restart the power supply.
over temp.	Power supply shuts down when temperature is in excess of 85 °C. Auto recovery.



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GENERAL AND SAFTEY

parameter	conditions/description	min	nom	max	units
operating temp.	0 to 70°C ambient, de-rating at 2.5% per degree from 50°C to 70°C.	0		50	°C
storage temp.		-20		85	°C
operating humid.	Non-condensing	5%		90%	RH
storage humid.	Non-condensing	5%		95%	RH
EMI	CISPR 22 / EN55022 class B, EN61000-3-2, 3, EN61000-4-2, 3, 4, 5, 8, 11, EN55024 CE marked (LVD)				
safety	UL60950-1, CSA C22.2 No. 60950-1, TUV EN60950-1 and CB				
leakage current (optional)	at 240 V ac			1.5	mA
	at 240 V ac			500	µA
	at 120 V ac			300	µA
vibration	Acceleration ± 7.35 M/(SxS), on X, Y and Z Axis	5		50	Hz
isolation voltage (HI-POT)	Applied for 3 seconds				
	Primary to secondary:	3000			VAC
	Primary to transformer core:	1500			VAC
	Primary to chassis:	1500			VAC
grounding test	Allowable resistance measured when 25 A current is applied from the ground pin of the three prong plug to the farthest earthed connection point.			0.1	Ω
warranty	Standard warranty length			2	years
MTBF	According to MIL-HDBK-217 at 30 °C	100,000			hours
burn-in	Full load, at 45 ± 5 °C, 230 VAC.			1	hours
cooling	Top built-in fan.				
remote on/off	Designated as RMSW on CN1, requires a low signal to inhibit output. Hiccough mode.				

MECHANICAL

parameter	conditions/description	min	nom	max	units
weight				550	grams
enclosure	5(L) x 3.2(W) x 2(H)				inches

LOGIC SIGNAL CONNECTOR - (CN1)

parameter	conditions/description
logic	JST B7B-XH-A Suggested mating connector: JST XHP-3 or equivalent (CHYAO SHIUNN JS-2001-03) contact: SXH-002T-P0.6
pin assignments	1. power good 2. remote switch 3. return

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FAN DRIVER CONNECTOR - (FAN2)

parameter	conditions/description
FAN2	Suggested mating connector: JST XHP-2 (2 pins 0.98 pitch) or equivalent (CHYAO SHIUNN JS-2001-02)

OUTPUT CONNECTOR - (CN2)

parameter	conditions/description
option 1	Molex 09-91-0600 or similar (6 pin) Output pin assignment, V2 (Pin 1), RTN (Pins 2-5), V1 (Pins 6-8)
option 2	Howder Terminal block Part No. HB-819-3P (3 pin, M3 Screw) 8.25mm spacing Output pin assignment, V2 (Pin 1), RTN (Pin 2), V1 (Pin 3)

INPUT CONNECTOR - (CN3)

parameter	conditions/description
option 1	Molex 09-91-0500 or similar (5 pin, 3 used)
option 2	Howder Terminal block Part No. HB-601-3P (3 pin, M3 Screw) 6.35mm spacing

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