SERIES: VF-S250-XXA-CF | DESCRIPTION: AC-DC POWER SUPPLY

FEATURES

- up to 250 W continuous power
- 600 W peak power within 500 µs duty duration
- metal top cover and fan
- passive power factor correction
- power good signal
- remote on/off control
- 3,000 Vac isolation voltage
- over load, over voltage, over temperature, and short circuit protections
- UL, cUL, and TUV 62368-1 certified
- efficiency up to 83%

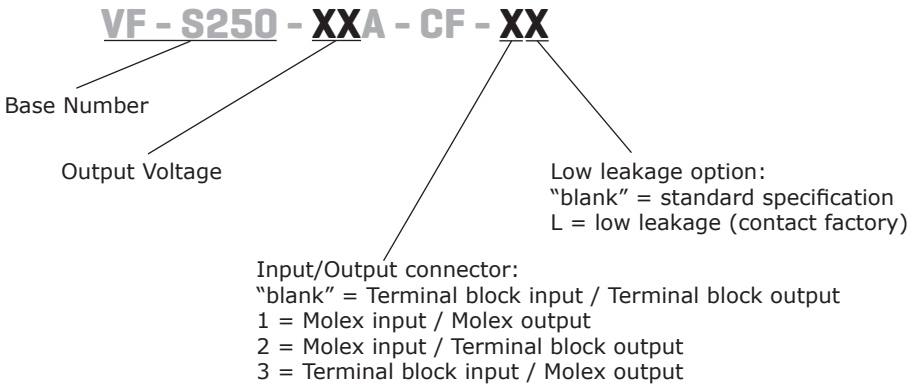


MODEL

MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise [1,2] max (mVp-p)	efficiency typ (%)
VF-S250-05A-CF*	5	40	200	50	75%
VF-S250-09A-CF*	9	25	225	90	83%
VF-S250-12A-CF	12	20.83	250	120	80%
VF-S250-15A-CF	15	16.67	250	150	83%
VF-S250-18A-CF	18	13.89	250	180	83%
VF-S250-24A-CF	24	10.42	250	240	83%
VF-S250-28A-CF	28	8.93	250	280	83%
VF-S250-36A-CF	36	6.93	250	360	83%
VF-S250-48A-CF	48	5.21	250	480	83%
VF-S250-54A-CF	54	4.63	250	540	83%

Notes:
1. 1% minimum load is required to maintain the ripple and regulation.
2. Ripple and noise is measured from 10 KHz to 20 MHz at output terminals with a 0.1 µF ceramic capacitor and a 22 µF electrolytic capacitor in parallel.
3. * Discontinued model.

PART NUMBER KEY



Please read our datasheet & drawing disclaimer here.

INPUT

parameter	conditions/description	min	typ	max	units
voltage	auto selectable	90 180		132 264	Vac Vac
frequency		47		63	Hz
current	at 110~120 Vac, cold start at 200~240 Vac, cold start			6 3	A A
inrush current	at 115 Vac, cold start at 230 Vac, cold start			35 70	A A
power factor	compliant to EN 61000-3-2 class A				
remote on/off	designated as RMSW on the CN1, requires a low signal to inhibit output, off behavior: hiccup mode				

OUTPUT

parameter	conditions/description	min	typ	max	units
regulation			±1		%
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%.				
start-up time	at 230 Vac			1	s
hold-up time	at 80% of rated maximim load	20			ms
adjustability			±5		%
switching frequency	fixed		25		kHz
power good	designated as PG on the CN1, signal goes high 100~500 ms after the output reaches regulation, signal goes low at least 1 ms before loss of regulation (open collector).				
fan drive	12 Vdc / 300 mA for external fan				

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	AC input needs to be reset to restart the power supply			130	%
over current protection	automatically recovers	110		140	%
short circuit protection	short circuit can be continuous, recovers automatically				
over temperature protection	auto recovery		110		°C

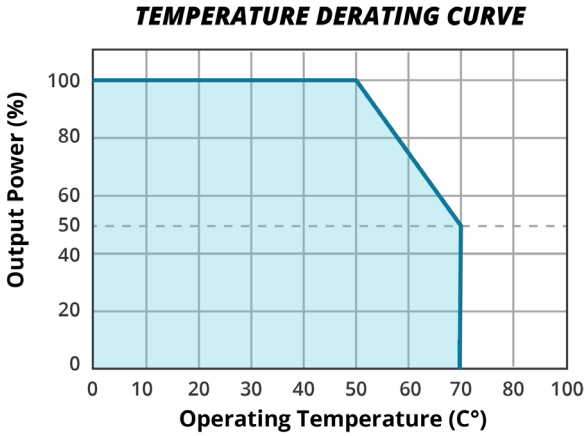
SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	for 3 seconds at 10 mA max primary to secondary: primary to transformer core: primary to earth chassis:	 3,000 1,800 1,600			 Vac Vac Vac
safety approvals	certified to 62368-1: IEC/EN/UL				
EMI/EMC	EN 55032 Class B conducted / radiated, EN 61000-3-2, EN 61000-3-3, EN 55024 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11)				
leakage current	standard model at 264 Vac low-leakage model at 240 Vac low-leakage model at 120 Vac			1 500 300	mA µA µA
RoHS	yes				
MTBF	according to MIL-HDBK-217 at 30ºC	100,000			hrs

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%
storage humidity	non-condensing	5		95	%
vibration	acceleration ± 7.35 M/(SxS), on X, Y and Z Axis	5		50	Hz

DERATING CURVES



MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	5(L) x 3.2(W) x 2(H)				inches
weight				500	g

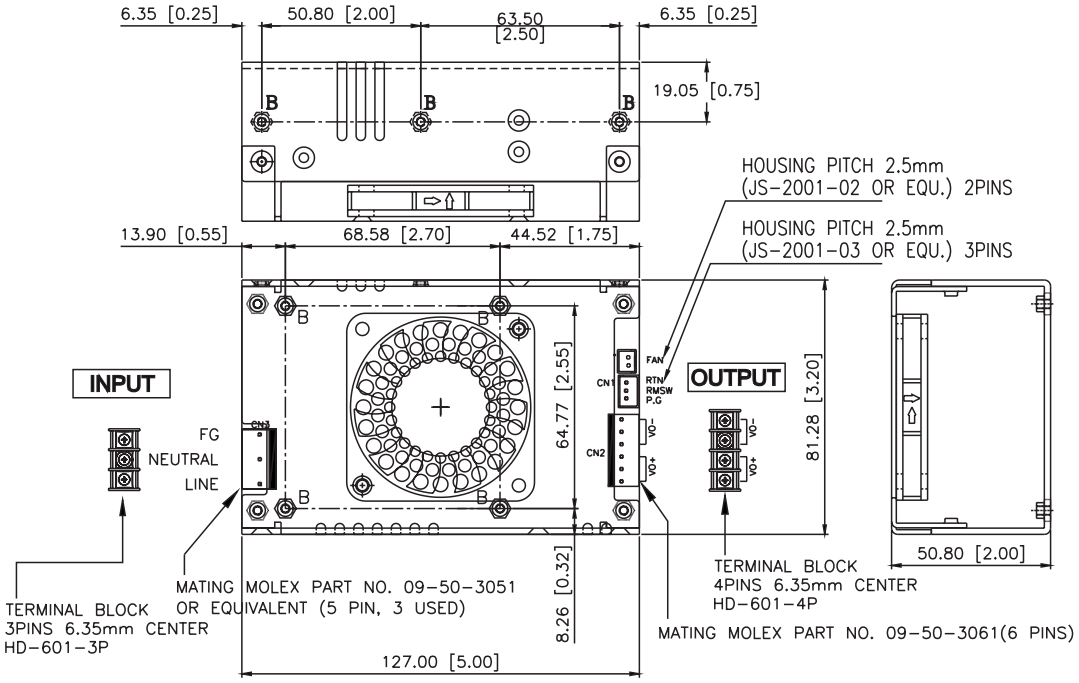
MECHANICAL DRAWING

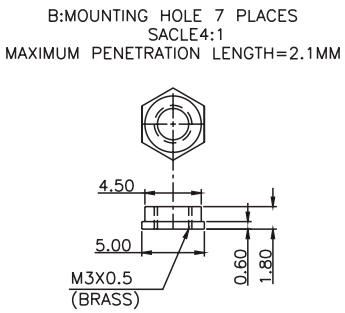
units: mm

CN1	
1	ground
2	ac neutral
3	ac line

CN2	
1	Vo+
2	Vo+
3	Vo+
4	Vo-
5	Vo-
6	Vo-

CN3	
1	Power Good
2	remote switch
3	RTN





Notes:
1. CN1 mates with molex part no. 09-93-0500 and molex 2478, 2578, 8818 crimp pins.
2. CN2 mates with molex part no. 09-93-0600 and molex 2478, 2578, 8818 crimp pins.
3. CN3 mates with JST part no. XHP-3 or equivalent (Chyao Shiunn JS-2001-03) and JST SXH-002T-P0.6 mating pins
4. Fan drive connector mates with JST part no. XHP-2 or equivalent
5. Mounting hole maximum M3 screw penetration depth is 2.1 mm.

REVISION HISTORY

rev.	description	date
1.0	initial release	05/05/2009
1.01	new template applied	12/17/2011
1.02	V-Infinity branding removed	08/28/2012
1.03	updated Molex mating connector part numbers	07/18/2013
1.04	updated spec	08/13/2013
1.05	updated to be certified to 62368-1 safety standard	07/02/2019
1.06	company logo updated	12/22/2020
1.07	updated remote on/off line & derating curve	04/26/2021
1.08	product image updated	03/24/2022
1.09	discontinued model VF-S250-05A-CF	06/02/2022
1.10	mechanical drawing updated	03/21/2023
1.11	discontinued model VF-S250-09A-CF	04/08/2024
1.12	isolation voltage updated	06/05/2025

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

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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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