

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

FEATURES

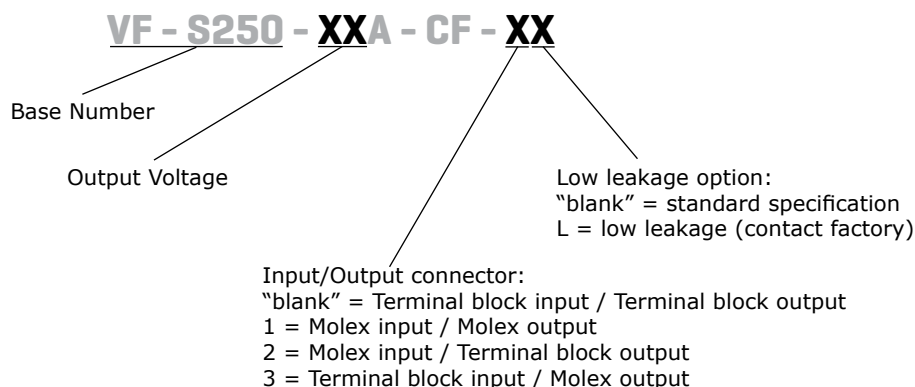
- up to 250 W continuous power
- 600W peak power within 500 μ s duty duration
- metal top cover and fan
- passive power factor correction
- power good signal
- remote on/off control
- 3,000 Vac isolation voltage
- over load, over voltage, over temperature, and short circuit protections
- UL, cUL, and TUV 60950-1 safety approvals
- efficiency up to 83%



MODEL	output voltage	output current	output ¹ power	ripple and noise ^{2,3}	efficiency
	(Vdc)	max (A)	max (W)	max (mVp-p)	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. Maximum power must not exceed 135 W with convection cooling or 250 W for forced air. 5 and 9 V models maximum current listed.
2. 1% minimum load is required to maintain the ripple and regulation.
3. Ripple and noise is measured from 10 KHz to 20 MHz at output terminals with a 0.1 μ F ceramic capacitor and a 22 μ F electrolytic capacitor in parallel.

PART NUMBER KEY


INPUT

parameter	conditions/description	min	typ	max	units
voltage	90-132/180-264 auto selectable	90/180		132/264	Vac
frequency		47		63	Hz
current	at 110~120 Vac, cold start			6	A
	at 200~240 Vac, cold start			3	A
inrush current	at 115 Vac, cold start			35	A
	at 230 Vac, cold start			70	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, hiccup mode				

OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	low line to high line		±1		%
load regulation	all other outputs		±1		%
temperature coefficient			0.25		mV/°C
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 120 Vac			1	s
rise time		0.2		20	ms
hold-up time	at 120 Vac and 80% of rated maximum load	20			ms
adjustability			±5		%
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.				
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 upon removal of short				
over temperature protection	auto recovery			85	°C

SAFETY & COMPLIANCE

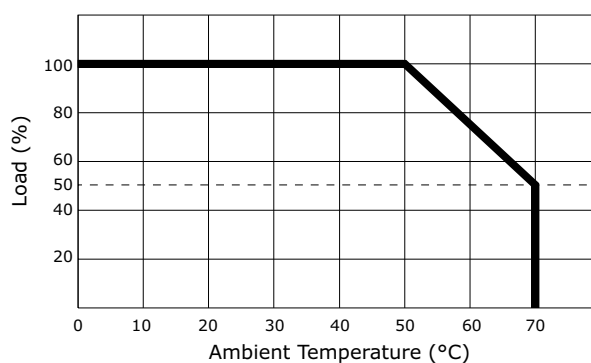
parameter	conditions/description	min	typ	max	units
isolation voltage	applied for 3 seconds at 10 mA max.				
	primary to secondary	3,000			Vac
	primary to transformer core	1,500			Vac
	primary to earth chassis	1,500			Vac
safety approvals	UL 60950-1, CSA C22.2 No. 60950-1, TUV EN 60950-1 and CB				
EMI/EMC	CISPR 22/EN 55022 class B, EN 61000-3-2, 3, EN 61000-4-2, 3, 4, 5, 6, 8, 11, EN 55024 CE marked (LVD)				
leakage current	at 240 Vac, (optional for 500 µA at 240 Vac, 300 µA at 120 Vac)			1.5	mA
MTBF	according to MIL-HDBK-217 at 30 °C	100,000			hrs
RoHS compliant	yes				

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 $\pm 7.35 \text{ M}/(\text{SxS})$, on X, Y and Z Axis	5		50	Hz

DERATING CURVES

output power vs. ambient temperature

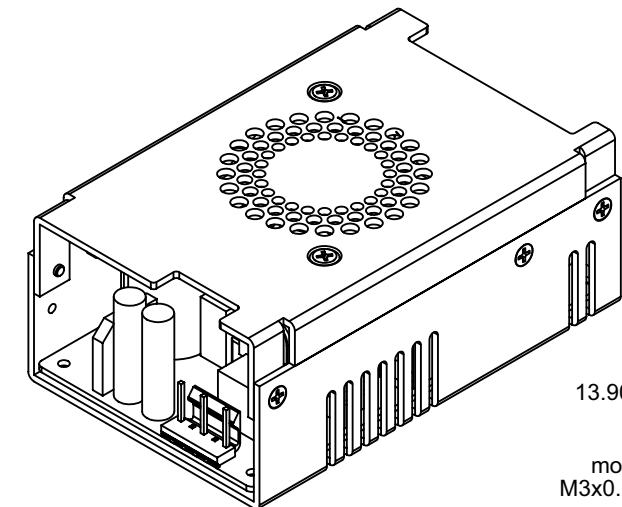


MECHANICAL

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

MECHANICAL DRAWING

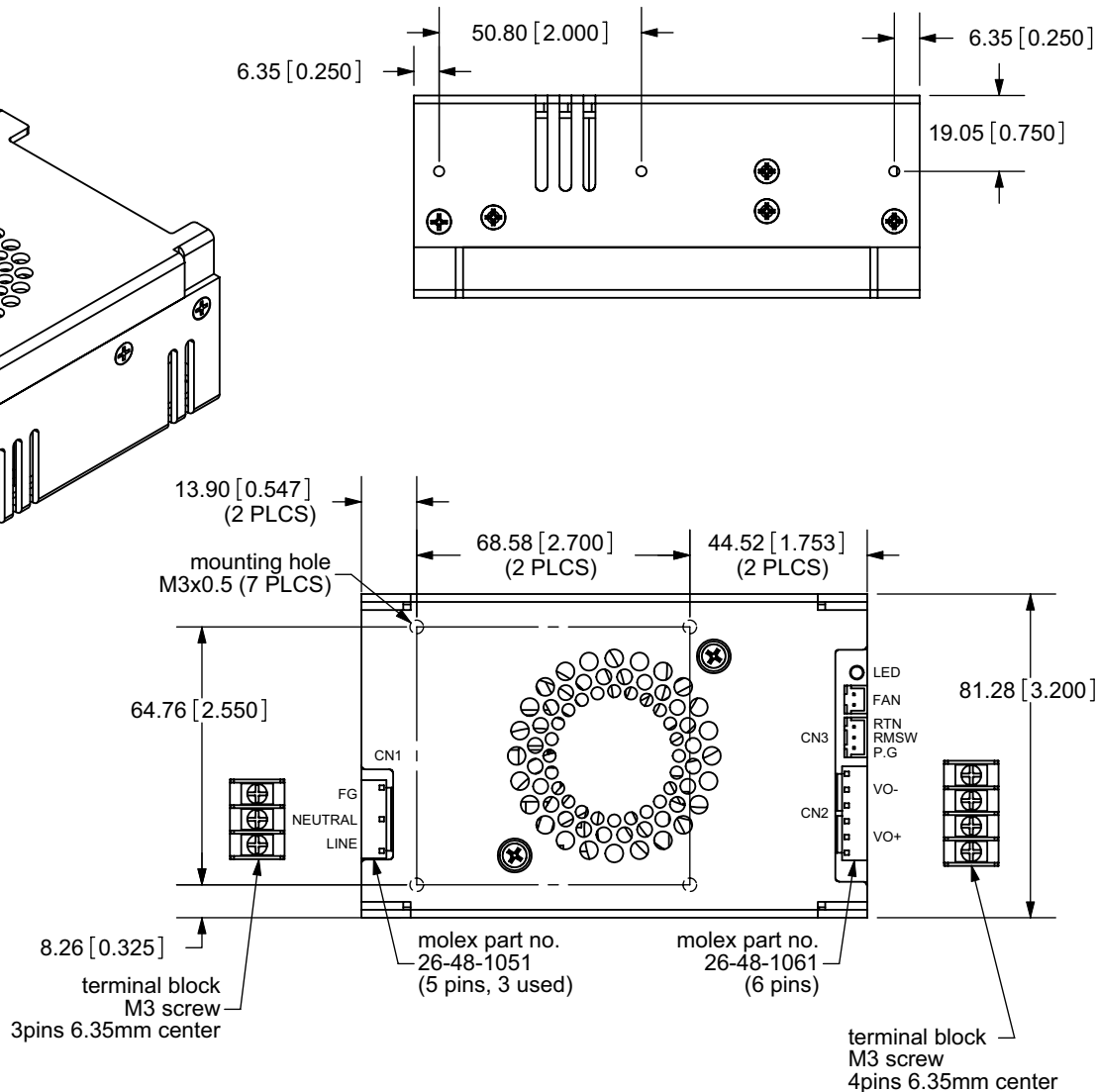
units: mm[inches]
tolerance: $\pm 0.3\text{mm}$
UNLESS OTHERWISE SPECIFIED



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 depth 3.8mm

REVISION HISTORY

rev.	description	date
1.0	initial release	05/5/2009
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

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

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