

DESCRIPTION: AC-DC POWER SUPPLY SERIES: VF-S150-XXA-CF

FEATURES

- ac input range auto-selectable
- power factor correction
- remote on/off control
- power good signal
- over load, over voltage, over temperature, and short circuit protections

ROHS **FU**IS **EALART** TYPE

- providing Peak Power 600W within 500uS duty duration
- UL, cUL, TUV, CE with CB scheme approvals
- high power density: 6.25 watts cu. in.



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	Product Sa	riety						
MODEL output voltage		output output voltage current		output power ⁵	output regulation 4,5	ripple and noise 3,4	efficiency	
			convection	16 CFM				
	typ (Vdc)	range ^{1,2,3} (Vdc)	m (/	ax A)	max (W)	typ (%)	max (mVp-p)	min (%)
VF-S150-03A-CF	3.3	3~4	20	30	120	±1	50	70
VF-S150-05A-CF	5	5~6	20	30	150	±1	50	70
VF-S150-12A-CF	12	12~16	8.3	12.5	150	±1	±1%	80
VF-S150-18A-CF	18	17~23	5.56	8.33	150	±1	±1%	83
VF-S150-24A-CF	24	24~30	4.17	6.25	150	±1	±1%	83
VF-S150-48A-CF	48	35~56	2.08	3.13	150	±1	±1%	83

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 and a 22 μF electrolytic capacitor in parallel.

5. Maximum power with 16 CFM forced air. Maximum power with convection cooling is 100 W except for VF-S150-03A-CF which is 80 W max.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage	auto selectable	90 180		132 264	Vac Vac
frequency		47		63	Hz
current	at 115 Vac, cold start at 230 Vac, cold start			4 2	A A
inrush current	at 230 Vac, full load, cold start			70	А
power factor	compliant to EN 61000-3-2 class A				
remote on/off	designated as RMSW on the CN1, requires a l off behavior: hiccup mode	ow signal to inhibit	output,		

OUTPUT

conditions/description	min	typ	max	units
		±1		%
output voltage returns to within 1% in less than 2 peak transient does not exceed 5%.	.5 ms for a 509	% load change	e	
turn-on and turn-off overshoot shall not exceed 5°	% over nomina	l voltage		
at 120 Vac			1	S
at 120 Vac, 80% of rated maximim load	20			ms
adjustable with built in trim pot		±5		%
when green (LED1) is on the power supply is open	ating normally			
		25		kHz
designated as PG on the CN1, signal goes high 100 reaches regulation, signal goes low at least 1 ms b	0~500 ms afte before loss of re	r the output egulation		
12 Vdc / 300 mA for external fan				
	conditions/description output voltage returns to within 1% in less than 2 peak transient does not exceed 5%. turn-on and turn-off overshoot shall not exceed 5° at 120 Vac at 120 Vac at 120 Vac, 80% of rated maximim load adjustable with built in trim pot when green (LED1) is on the power supply is oper designated as PG on the CN1, signal goes high 100 reaches regulation, signal goes low at least 1 ms to 12 Vdc / 300 mA for external fan	conditions/description min output voltage returns to within 1% in less than 2.5 ms for a 50% peak transient does not exceed 5%. turn-on and turn-off overshoot shall not exceed 5% over nomina at 120 Vac at 120 Vac at 120 Vac, 80% of rated maximim load 20 adjustable with built in trim pot when green (LED1) is on the power supply is operating normally designated as PG on the CN1, signal goes high 100~500 ms after reaches regulation, signal goes low at least 1 ms before loss of reaches regulation, signal goes low at least 1 ms before loss of reaches regulation, signal goes low at least 1 ms before loss of reaches regulation, signal goes low at least 1 ms before loss of reaches regulation, signal goes low at least 1 ms before loss of reaches regulation for external fan	conditions/descriptionmintyp±1output voltage returns to within 1% in less than 2.5 ms for a 50% load change peak transient does not exceed 5%.turn-on and turn-off overshoot shall not exceed 5% over nominal voltageat 120 Vacat 120 Vac, 80% of rated maximim load20adjustable with built in trim pot±5when green (LED1) is on the power supply is operating normally25designated 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 regulation12 Vdc / 300 mA for external fan	conditions/descriptionmintypmax±1output voltage returns to within 1% in less than 2.5 ms for a 50% load change peak transient does not exceed 5%.Image: Constant of the constant o

PROTECTIONS

parameter	conditions/description	min	typ	max	units
input fuse	built-in ac fuse (a blown fuse usually indicates permanent damag	ge to the power	supply servic	eable by factr	oy only)
over voltage protection	auto recovery, output shut-down with latch			130	%
over current protection	auto recovery	110		140	%
short circuit protection	continuous, auto recovery				
over temperature protection	output shut-down, auto recovery		85		°C

SAFETY & COMPLIANCE

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parameter	conditions/description	min	typ	max	units
	for 3 seconds at 10 mA max				
icolation voltage	primary to secondary:	3,000			Vac
Isolation voltage	primary to transformer core:	1,500			Vac
	primary to earth chassis:	1,500			Vac
safety approvals	UL 60950(E222889), CSA C22.2 No. 60950, T	TUV EN 60950 and C	В		
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	8, E marked (LVD)			
leakage current	at 264 Vac			3.5	mA
RoHS	yes				
MTBF	according to MIL-HDBK-217 at 30°C	100,000			hrs
burn-in	full load, at 45 ±5°C, 230 Vac			1	hrs

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ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	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 M/(SxS), on X, Y and Z Axis	5		50	Hz

DERATING CURVE



TEMPERATURE DERATING CURVE

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	127.00 x 81.28 x 50.80 (5 x 3.2 x 2 inch)				mm
weight			500		g

MECHANICAL DRAWING

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units: mm



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LOGIC CONNECTOR (CN-1)

parameter	conditions/description	min	typ	max	units
logic	JS B7B-XH-A				
pin assignment	suggested mating connector: JST XHP-3 1. power good 2. remote switch 3. RTN	or equivalent (CHYAO Sł	HIUNN JS-20	01-03)	

FAN DRIVER CONNECTOR (FAN)

parameter	conditions/description	min	typ	max	units		
fan	suggested mating connector: JST XHP-2 or equivalen	ggested mating connector: JST XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02)					

OUTPUT CONNECTOR (CN-2)

parameter	conditions/description	min	typ	max	units
output (option 1)	Molex part no. 26-48-1061 or similar (6 pin) output pin assignment, V+ (pins 1-3), V- (pins 4-6 suggested mating connector: Molex part no. 09-91	5) 0600 or equi	valent (6)		
output (option 2)	Howder terminal block part no. HD-601-4P (4 pin, output pin assignment, V+ (Pins 1-2), V- (Pins 3-4 suggested mating connector: Molex 19198-0045 o	M3.5 Screw) 6) r similar	5.35 mm spac	cing	

INPUT CONNECTOR (CN-3)

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parameter	conditions/description	min	typ	max	units
ac input (option 1)	Molex part no. 26-48-1051 or similar (5 pin, 3 used). suggested mating plug: Molex part no. 09-91-0500 or equivalent (5 pin, 3 used)				
ac input (option 2)	Howder terminal block part no. HD-601-3P (3 pin, M3.5 suggested mating connector: Molex 19198-0045 or sim	Screw) 6.35 ilar	mm spacing		

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REVISION HISTORY

rev.	description	date
1.0	initial release	11/01/2009
1.01	specification updated to a new template	04/29/2021

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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