

PART NUMBER: VF-S320-XXA

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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 700W within 500uS duty
- approved to UL, CUL, TUV, CE with CB scheme
- · high power density: 8.9 watts/inch³







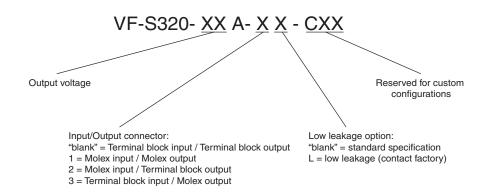


MODEL	output ^{1,2}	preset voltage	output c convection ⁵		rip regulation ³	ple & noise ^{3,4} (Vpp)
VF-S320-05A	2 - 5.5 V	5 V	27.28 A	45 A	±1%	50 mV
VF-S320-09A	6 - 10 V	9 V	16.37 A	29.1 A	±1%	±1%
VF-S320-12A	12 - 13.5 V	12 V	15 A	26.67 A	±1%	±1%
VF-S320-15A	13.6 - 15 V	15 V	12 A	21.33 A	±1%	±1%
VF-S320-18A	16 - 20 V	18 V	10 A	17.78 A	±1%	±1%
VF-S320-24A	21 - 26 V	24 V	7.5 A	13.33 A	±1%	±1%
VF-S320-28A	27 - 34 V	28 V	6.43 A	11.43 A	±1%	±1%
VF-S320-36A	35 - 42 V	36 V	5 A	8.89 A	±1%	±1%
VF-S320-48A	43 - 50 V	48 V	3.75 A	6.67 A	±1%	±1%
VF-S320-54A	51 - 60 V	54 V	3.33 A	5.93 A	±1%	±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 a 22 μF electrolytic capacitor in parallel.
- 5 Maximum power is 320 W with 22 CFM airflow. 5 and 9 V units maximum current is listed. Maximum power is 180 W with convection.

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		264	V ac
Input current	At 100-120 V ac			8	A
	At 200-240 V ac			4	A
inrush current	Peak measured at 230 V ac at full load, cold start			70	Α
inrush current	Peak measured at 115 V ac 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				
	3.3 model:	70%			
	5 V model:	75%			
	12 V model:	80%			
	All other models:	83%			
turn on delay	At 120 V ac			1	Wsecond
hold up time	At 120 V ac 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	g 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 V dc/4G00mA 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.
over temp.	Tower supply shalls down when temperature is in excess of ob. 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	0		50	°C
	from 50°C to 70°C.				
storage temp.		-20		85	°C
operating humid.	Non-condensing	5%		90%	RH
storage humid.	Non-condensing	5%		95%	RH
ЕМІ	Pass FCC Part 15, CISPR 22 class B, Conducted				
safety	UL60950-1, CSA C22.2 No. 60950-1-03, TUV EN60950-	1, CE Mark (L	VD)		
	EN61000-3-(2,3) & IEC61000-4 Series regulations and C	СВ			
leakage current	at 240 V ac			1.5	mA
vibration	Acceleration ± 7.35 M/(SxS), on X, Y and Z Axis	5		50	Hz
isolation voltage	Applied for 3 seconds at 10 mA				
(HI-POT)	Primary to secondary:	3,000			V ac
	Primary to transformer core:	1,500			V ac
	Primary to earth chassis:	1,500			V ac
grounding test	Allowable resistance measured when 25 A current is			0.1	Ω
	applied from the ground pin of the three prong plug				
	to the farthest earthed connection point.				
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 V ac			1	hours
cooling	Built-in DC fan speed control.				

MECHANICAL

parameter	conditions/description	min	nom	max	units
weight				600	grams
enclosure	6(L) x 4(W) x 1.5(H)				inches

LOGIC SIGNAL CONNECTOR - (CN1)

parameter	conditions/description
CN1	JST B2B-XH-4 or equivalent (CHYAO SHIUNN JS-1001-03)
	Suggested mating connector: JST XHP-3 or equivalent (CHYAO SHIUNN JS-2001-03)

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)



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INPUT / OUTPUT CONNECTOR - (CN2)

parameter	conditions/description
option 1	AC INPUT JST VH series (5 pin with pins 2 and 4 removed) or equivalent (Chyao Shiunn JS-1120-05)
	Suggested mating plug: JST VHR-5N (5 pin) or equivalent (Chyao Shiunn JS-1121-05)
	contact: JST SVH series or similar
	DC OUTPUT JST VH series (10 pin) or equivalent (Chyao Shiunn JS-1120-10)
	Suggested mating plug: JST VHR-10N (10 pin) or equivalent (Chyao Shiunn JS-1121-10)
	contact: JST SVH series or similar
option 2	Howder Terminal block Part No. HB-95-7P (7 pin, M3.5 Screw) 9.5mm spacing
	Suggested mating connector: Molex 19198-0045 or similar

