SERIES: VF-S320-XXA | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

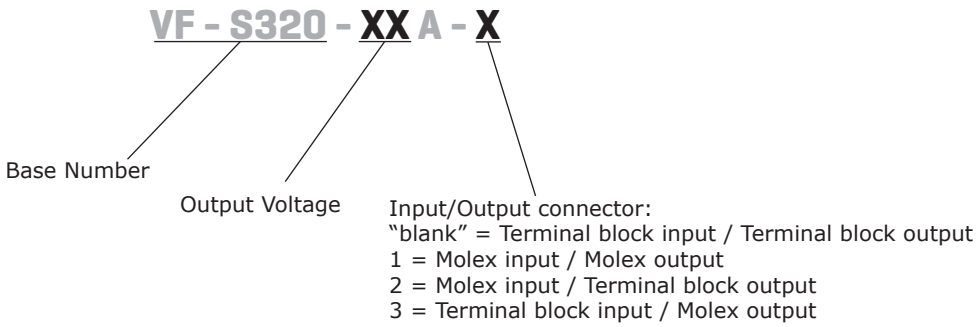
- up to 320 W continuous power w/ 22 CFM forced air
- 700 W peak power within 500 µs duty duration
- passive power factor correction
- power good signal
- 3,000 Vac isolation voltage
- over load, over voltage, over temperature, and short circuit protections
- UL/EN/IEC 62368 certified
- efficiency up to 83%



MODEL	output voltage	output current		output power[1]		ripple and noise [3,4]	efficiency
	(Vdc)	max (A)	max w/ airflow[2] (A)	max (W)	max w/ airflow[2] (W)	max (mVp-p)	typ (%)
VF-S320-05A*	5	27.28	45	136	225	50	75%
VF-S320-09A*	9	16.37	29.1	147	262	90	83%
VF-S320-12A	12	15	26.67	180	320	120	80%
VF-S320-15A	15	12	21.33	180	320	150	83%
VF-S320-18A	18	10	17.78	180	320	180	83%
VF-S320-24A	24	7.5	13.33	180	320	240	83%
VF-S320-28A	28	6.43	11.43	180	320	280	83%
VF-S320-36A	36	5	8.89	180	320	360	83%
VF-S320-48A	48	3.75	6.67	180	320	480	83%
VF-S320-54A	54	3.33	5.93	180	320	540	83%

Notes:
1. Maximum power must not exceed 180 W with convection cooling or 320 W for forced air.
2. With external 22 CFM fan.
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. * Discontinued model.

PART NUMBER KEY



Please read our datasheet & drawing disclaimer here.

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 100~120 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				

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 maximim load	20			ms
adjustability			±5		%
power good	Designated as PG on the CN3. 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 / 400 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

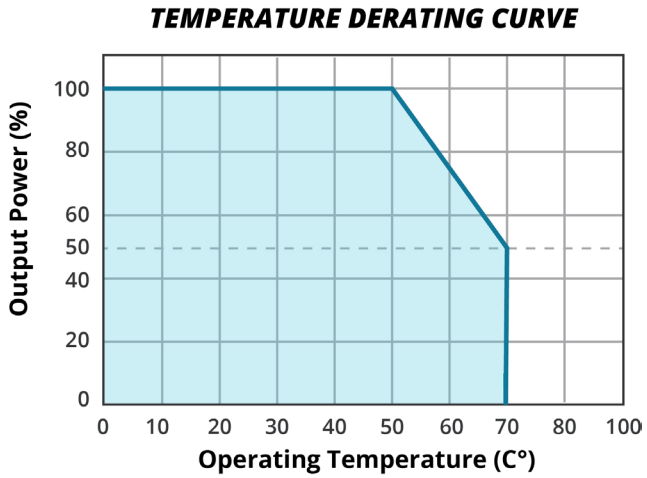
SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	applied for 3 seconds at 10 mA max. primary to secondary primary to transformer core primary to earth chassis	 3,000 1,500 1,500			 Vac Vac Vac
safety approvals	certified to 62368: IEC, EN, UL				
EMI/EMC	pass FCC Part 15, CISPR 22 class B, conducted				
leakage current	at 240 Vac at 120 Vac			500 300	µA µA
RoHS compliant	yes				
MTBF	according to MIL-HDBK-217 at 30 ºC	100,000			hrs

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 ± 7.35 M/(SxS), on X, Y and Z Axis	5		50	Hz

DERATING CURVES

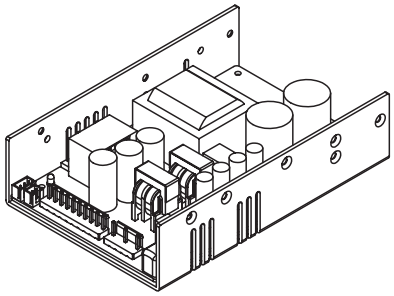


MECHANICAL

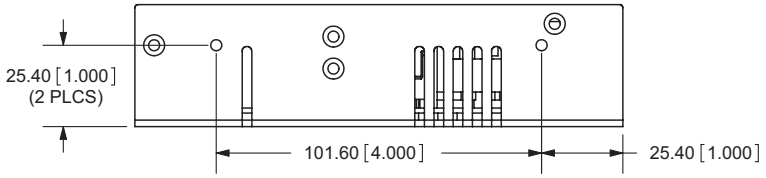
parameter	conditions/description	min	typ	max	units
dimensions	152.40 x 101.60 x 38.10 [6 x 4 x 1.5 inch]				mm
weight				600	g

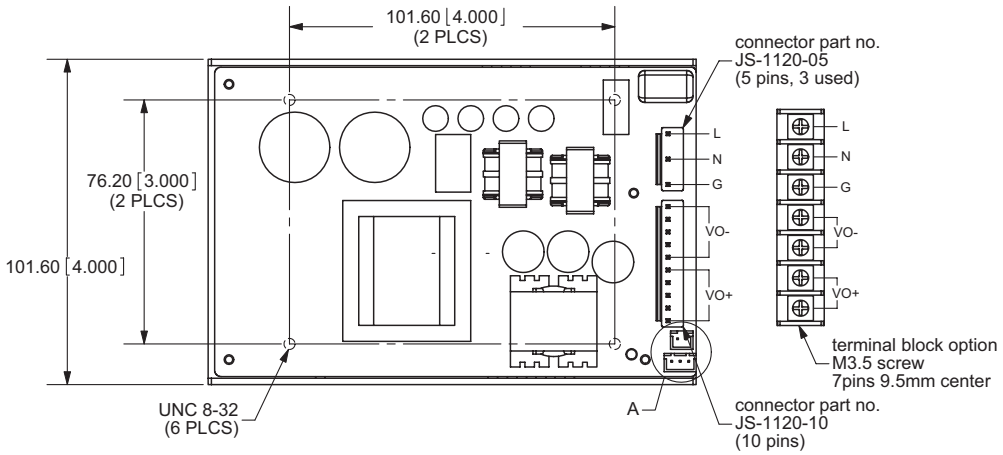
MECHANICAL DRAWING

units: mm[inches]
tolerance: ±0.3 mm
unless otherwise specified



SCALE: 1:3

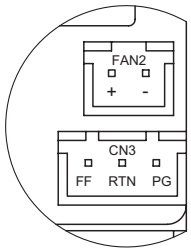




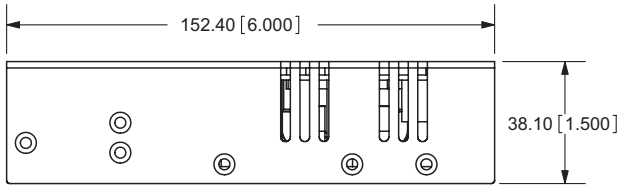
CN1	
1	ground
2	ac neutral
3	ac line

CN2	
1	Vo+
2	Vo+
3	Vo+
4	Vo+
5	Vo+
6	Vo-
7	Vo-
8	Vo-
9	Vo-
10	Vo-

CN3	
1	power good
2	RTN
3	fan fail



DETAIL A
SCALE 2 : 1



Notes:
1. CN1 mates with JST VH series 5-pin connector.
2. CN2 mates with VH series 10-pin connector.
3. CN3 mates with JST 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 max depth 4.00mm

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	removed on/off information, removed low leakage option, updated spec	04/23/2013
1.04	company logo updated	12/22/2020
1.05	safeties updated	02/10/2021
1.06	derating curve updated	04/22/2021
1.07	discontinued models VF-S320-05A & VF-S320-09A	06/02/2022

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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