

**STFA120 SERIES**



**120W Open Frame Power Supply for I.T. Equipment**

- Wide Operating Voltage 90 to 264 VAC, 47 to 63 Hz
- Internal EMI filter
- Crowbar Mode Over Voltage Protection
- Single to Triple Output
- Active Power Factor Correction
- Class I system

**3 Year Warranty**

Approvals:

**Single Output**

Model Number	Output Voltage	Output Current	Total Regulation	Max. Output Power
STFA120-S01	3 ~5 VDC	22.00 ~ 20.00A	±5%	100W
STFA120-S02	5 ~6 VDC	22.00 ~ 18.33A	±5%	110W
STFA120-S03	6 ~9 VDC	19.16 ~ 12.77A	±5%	115W
STFA120-S04	9 ~11 VDC	13.33 ~ 10.90A	±4%	120W
STFA120-S05	11 ~ 13 VDC	10.90 ~ 9.23A	±3%	120W
STFA120-S06	13 ~ 16 VDC	9.23 ~ 7.50A	±3%	120W
STFA120-S07	16 ~ 21 VDC	7.50 ~ 5.71A	±3%	120W
STFA120-S08	21 ~ 27 VDC	5.71 ~ 4.44A	±2%	120W
STFA120-S09	27 ~ 33 VDC	4.44 ~ 3.63A	±2%	120W
STFA120-S10	33 ~ 40 VDC	3.63 ~ 3.00A	±2%	120W
STFA120-S11	40 ~ 50 VDC	3.00 ~ 2.40A	±2%	120W

**Multi Output**

Part Number	Output 1				Output 2				Output 3				Max. Output Power
	Vonom	lomin	lomax	Regmax	Vonom	lomin	lomax	Regmax	Vonom	lomin	lomax	Regmax	
STFA120-D00	+3.3V	1.5A	15A	±5%	+12V	0.6A	6A	±5%					120W
STFA120-D01	+5V	1.5A	15A	±5%	+12V	0.8A	6A	±5%					120W
STFA120-D02	+5V	1.5A	15A	±5%	+15V	0.6A	6A	±5%					120W
STFA120-D03	+5V	1.5A	15A	±5%	+24V	0.4A	3.5A	±5%					120W
STFA120-D04	+3.3V	1.5A	15A	±5%	+5V	0.8A	6A	±5%					79.5W
STFA120-D15	+5V	1.5A	15A	±5%					-24V	0.2A	2A	±5%	120W
STFA120-D19	+28V	0.4A	3.92A	±5%					+5V	0A	2A	±5%	120W
STFA120-T00	+3.3V	1.5A	15A	±5%	+12V	0.6A	6A	±5%	-12V	0A	0.8A	±5%	120W
STFA120-T00-1	+3.3V	1.5A	15A	±5%	+12V	0.6A	6A	±5%	+12V	0A	0.8A	±5%	120W
STFA120-T01	+5V	1.5A	15A	±5%	+12V	0.8A	6A	±5%	-5V	0A	0.8A	±5%	120W
STFA120-T01-1	+5V	1.5A	15A	±5%	+12V	0.8A	6A	±5%	+5V	0A	0.8A	±5%	120W
STFA120-T02	+5V	1.5A	15A	±5%	+12V	0.8A	6A	±5%	-12V	0A	0.8A	±5%	120W
STFA120-T02-1	+5V	1.5A	15A	±5%	+12V	0.8A	6A	±5%	+12V	0A	0.8A	±5%	120W
STFA120-T03	+5V	1.5A	15A	±5%	+15V	1.0A	6A	±5%	-15V	0A	0.8A	±5%	120W
STFA120-T03-1	+5V	1.5A	15A	±5%	+15V	1.0A	6A	±5%	+15V	0A	0.8A	±5%	120W
STFA120-T04	+5V	1.5A	15A	±5%	+24V	0.45A	3.5A	±5%	-24V	0.25A	0.8A	±5%	120W
STFA120-T04-1	+5V	1.5A	15A	±5%	+24V	0.45A	3.5A	±5%	+24V	0.25A	0.8A	±5%	120W
STFA120-T05	+5V	1.5A	15A	±5%	+24V	0.4A	3.5A	±5%	-12V	0A	0.8A	±5%	120W
STFA120-T05-1	+5V	1.5A	15A	±5%	+24V	0.4A	3.5A	±5%	+12V	0A	0.8A	±5%	120W
STFA120-T06	+3.3V	1.5A	15A	±5%	+12V	0.8A	6A	±5%	-5V	0A	0.8A	±5%	120W
STFA120-T06-1	+3.3V	1.5A	15A	±5%	+12V	0.8A	6A	±5%	+5V	0A	0.8A	±5%	120W
STFA120-T07	+5V	1.5A	15A	±5%	+10V	0.6A	6A	±5%	-10V	0A	1.0A	±5%	120W
STFA120-T07-1	+5V	1.5A	15A	±5%	+10V	0.6A	6A	±5%	+10V	0A	1.0A	±5%	120W
STFA120-T08	+3.3V	1.5A	15A	±5%	+5V	0.8A	6A	±5%	-12V	0A	1.0A	±5%	91.5W
STFA120-T08-1	+3.3V	1.5A	15A	±5%	+5V	0.8A	6A	±5%	+12V	0A	1.0A	±5%	91.5W

### Electrical Characteristics

Characteristic	Condition	Min.	Typ.	Max.	Unit
Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Input Operate Voltage Range	Detail to see Fig.1	90		260	VAC
Input Frequency	Sine wave	47		63	Hz
Power Factor Correction	Io=Full load, Vin=240VAC	0.95		1	
Output Power Range	See Rating Chart			120	W
Low Line Input Current	Full Load, Vin=100VAC		1.75		A
High Line Input Current	Full Load, Vin=240VAC		0.72		A
Low Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=100VAC			37	A
High Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=240VAC			88	A
Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz			0.75	mA
Efficiency	Full Load, Vin=230VAC, Detail to see Rating Chart	See Rating Chart			
Line Regulation	Full Load, Vin=100~120VAC	0.5		1	%
Load Regulation	Vin=230VAC, 10~90% Load Change at Condition	2		5	%
Over Voltage Protection	Over Voltage Protection	112		132	%
Over Load Protection	Recovers automatically after fault condition is removed	110		150	%
Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC			4	ms
Hold-Up Time	Full Load, Vin=100VAC	See Rating Chart			
Start-up time	Full Load, Vin=100~240VAC			3	s
Temperature Coefficient	Full load, Vin=100~240VAC			±0.04	%/°C
Dielectric Withstanding Voltage (P-S)	Primary to Secondary			4242	VDC
Dielectric Withstanding Voltage (P-G)	Primary to PE			2121	VDC
EMC Emission	Compliance to EN55022 (CISPR22)			B	Class

### Environmental

Characteristic	Condition	Min.	Typ.	Max.	Unit
Operating Temperature	Detail to see Fig.2 (Derate linearly from 100% load at 50°C to 50% load at 70°C)	0		70	°C
Storage Temperature	10 ~ 95% RH	-40		85	°C
Operating Humidity	non-condensing	0		95%	RH
Storage Humidity		0		95%	RH
Electro Static Discharge	Air Discharge, IEC61000-4-2			8	kV
Electro Static Discharge	Contact Discharge, IEC61000-4-2			4	kV
Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	100k			h
Operating Altitude (Elevation)	All condition			2000	m
Vibration	10 ~ 500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G
Surge Voltage	Line-Neutral			1	kV
Surge Voltage	Line-PE & Neutral-PE			2	kV

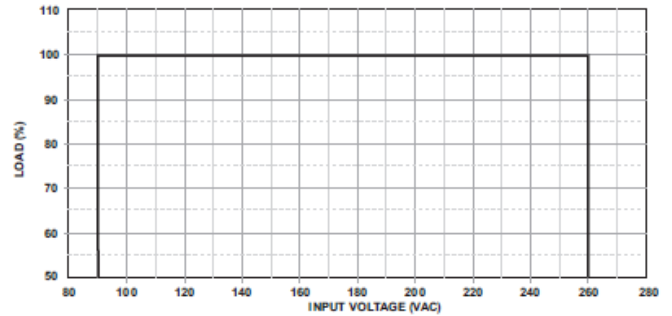
### General Specification

Short Circuit Protection	Auto Recovery
Cooling	Free Air Convection
Flammability Rating	UL94V-1
Protection Classes	Class I
Safety	UL 60950-1:2nd Edition, IEC 60950-1:2005 /A2, CSA C22.2 No.60950-1-07

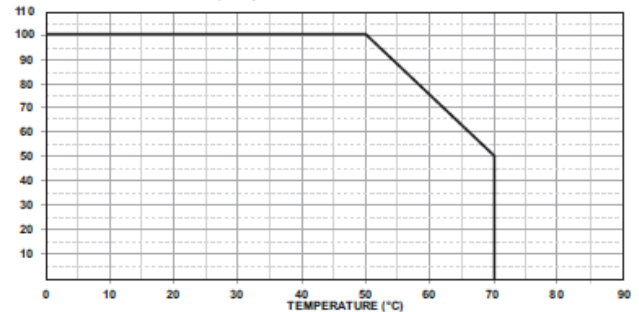
Mechanical Diagram and Technical Charts

**SPECIFICATION NOTE :**

1. Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
2. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
3. Line regulation is defined by changing  $\pm 10\%$  of input voltage from nominal line at rated load.
4. Load regulation is defined by changing  $\pm 40\%$  of measured output load from 60% rated load.
5. Ripple & noise is measured by using 20MHz bandwidth limited oscilloscope and terminated each output with a 0.47  $\mu\text{F}$  capacitor at rated load and nominal line.
6. Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line.
7. Efficiency is measured at rated load, and nominal line.

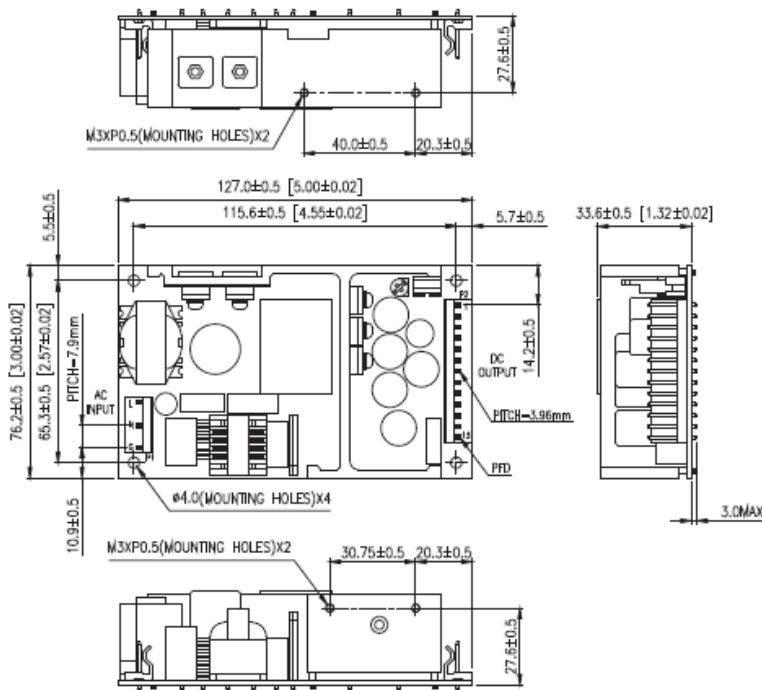


(FIG.1) INPUT VOLTAGE DERATING CURVE



(FIG.2) TEMPERATURE DERATING CURVE

**MECHANICAL DIMENSIONS: ( UNIT: mm )**



**PACKING :**

1. Dimensions are shown in mm.
2. Weight: 350~428gs approx.
3. Input connector mates with Molex housing 09-52-4054 and Molex 2478 series crimp terminal.
4. Output connector mates with Molex housing 09-52-4134 and Molex 2478 series crimp terminal.

**PIN CHART**

PART NUMBER	PIN	1	2	3	4	5	6	7	8	9	10	11	12	13 (Optional)
STFA120-SXX-13PIN	OUT	OUT	OUT	OUT	OUT	OUT	RTN	RTN	RTN	RTN	RTN	RTN	RTN	PFD
STFA120-D19-13PIN	N/C	N/C	Vo1	Vo1	Vo1	Vo1	COM	COM	COM	Vo3	COM	COM	COM	PFD
STFA120-D15-13PIN	N/C	N/C	Vo1	Vo1	Vo1	Vo1	COM	COM	COM	Vo3	COM	COM	COM	PFD
STFA120-DXX-13PIN	Vo2	Vo2	Vo1	Vo1	Vo1	Vo1	COM	COM	COM	N/C	COM	COM	COM	PFD
STFA120-TXX-13PIN	Vo2	Vo2	Vo1	Vo1	Vo1	Vo1	COM	COM	COM	Vo3	COM	COM	COM	PFD

Note: Vo1:Output#1 Vo2:Output#2 Vo3:Output#3