

**ST60 SERIES**

**60 Watts**

**KEY FEATURES**

- Power Module for PCB Mountable
- Smaller Size
- 4:1 Wide Input Range
- Regulated Output
- High Efficiency
- Operating Temperature: -40°C...+80°C (with derating)
- Remote ON/OFF Control
- Protections: Over Voltage / Over Temperature / Short Circuit All by Auto-recovery
- Screw Terminal for Option
- 3-Year Product Warranty



**ELECTRICAL SPECIFICATIONS**

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

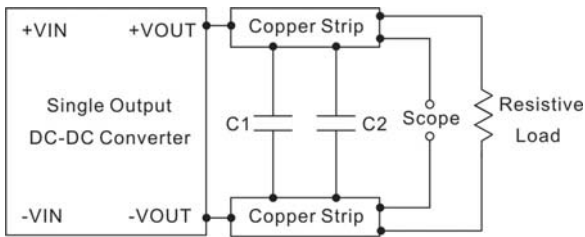
Model No.	with Heatsink	( Single Output )	ST60-48F-12S X	ST60-48F-15S X	ST60-48F-24S X
Model No.	without Heatsink	(Single Output )	ST60-48F-12S	ST60-48F-15S	ST60-48F-24S
Max Output Wattage (W)	with Heatsink	(at 48 Vin)	60W		
Max Output Wattage (W)	without Heatsink	(at 48 Vin)	60W	55.5W	56.4W
Input	Voltage (with Derating)		48V (18-72V)		
Remote ON/OFF	DC-DC ON		Open		
	DC-DC OFF		When -DC IN and ON/OFF CTL is Short		
Output	Voltage (V.DC.)		12	15	24
	Trim Voltage Range		±5%	±5%	None
	Voltage Accuracy		±2%		
	Current (mA) with Heatsink (max.)		5000	4000	2500
	Current (mA) without Heatsink (max.)		5000	3700	2350
	Line Regulation (LL-HL) (typ.)		±0.5%		
	Load Regulation (10-100%) (typ.)		±1%		
	Capacitor Load (max)	(at 48 Vin)	800uF	500uF	220uF
	Ripple & Noise	(Note 1)	150mV	1% of Vout	
	Efficiency	(at 48 Vin)	91%	90%	90%
Protection	Over Power Protection		Auto-recovery		
	Over Voltage Protection		Zener diode clamp		
	Over Temperature		Auto-recovery		
	Short Circuit Protection		Auto-recovery		
Isolation	Voltage		1600 VDC.		
	Resistance		10 <sup>8</sup> ohms		
	Capacitance (typ.)		2420 pF		
Environment	Operating Temperature	(Note 2)	-40°C...+80°C (with derating)		
	Storage Temperature		-45°C...+100°C		
	Case Temperature		+100°C max.		
	Temperature Coefficient		±0.05%/°C		
	Humidity		95% RH		
	MTBF		>550,000 h @ 25°C (MIL-HDBK-217F)		
Physical	Dimensions (L x W x H)		2.08 x 1.08 x 0.52 Inches ( 52.8 x 27.5 x 13.2 mm ) Tolerance ±0.5 mm		
	Case Material		Six-side shielded Aluminum with Non-Conductive base, Black Anodize		
	Weight		ST60-48F-xS X : 57 g (with Heatsink) ST60-48F-xS : 42g (without Heatsink)		
	Cooling Method		Free-air convection		
Safety	Agency Approvals		CE		
EMC	EMI (Conducted & Radiated Emission)	(Note 3)	EN 55022 class A		
	EMS (Noise Immunity)		EN 55024		

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**NOTE**

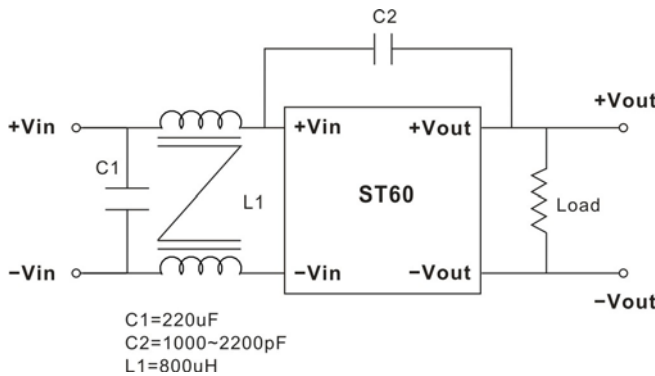
1. Ripple & Noise are measured at 20MHz of bandwidth with ceramic 0.1uF & chemi-con KY 47uF parallel capacitor.



C1=0.1u~1uF  
C2=47u~100uF

Use a Cout ceramic capacitor. Please refer to capacitor value of every series. Scope measurement should be made by using a BNC socket, measurement bandwidth is 0-20 MHz. Position the load between 50 mm and 75 mm from the DC-DC Converter.

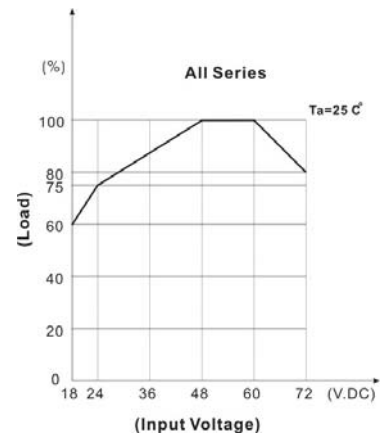
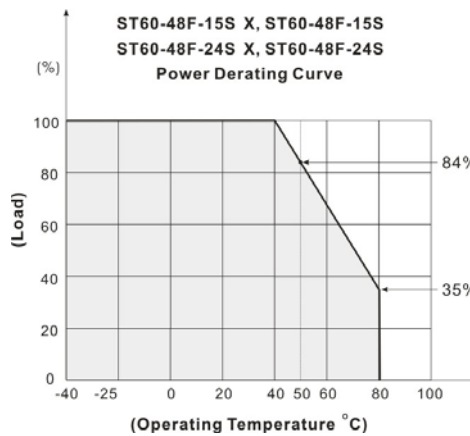
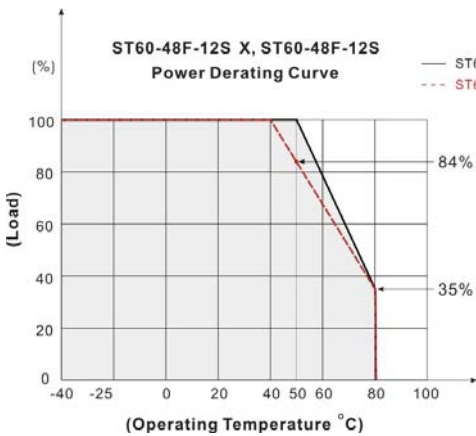
2. That "natural convection" is about 20LFM but is not equal to still air (0 LFM).  
3.



C1=220uF  
C2=1000~2200pF  
L1=800uH

4. Please refer to our PDF file "DC-DC Application" on our website: [www.archcorp.com.tw](http://www.archcorp.com.tw)

**DERATING**

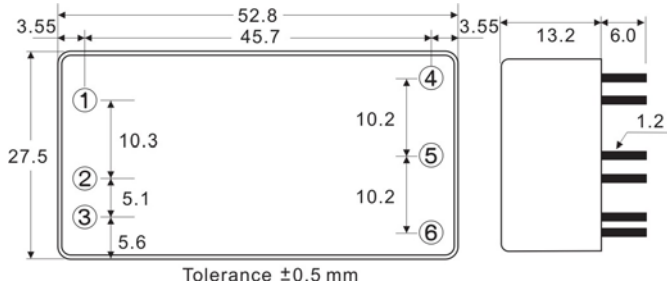


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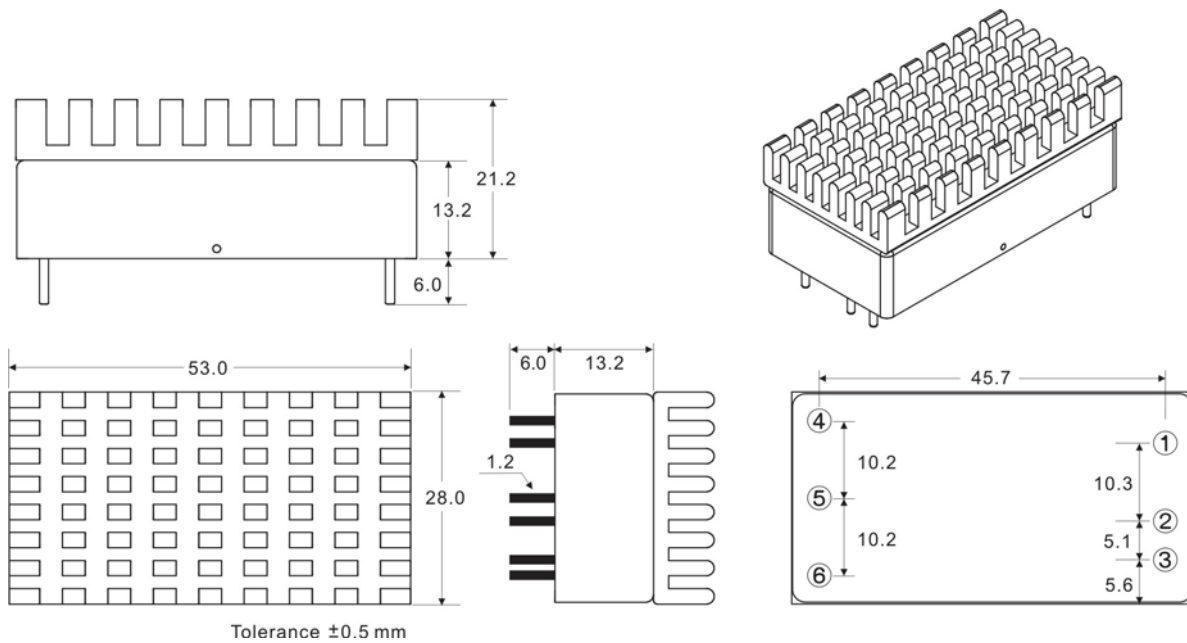
**MECHANICAL DIMENSIONS ( Top View )**

without Heatsink

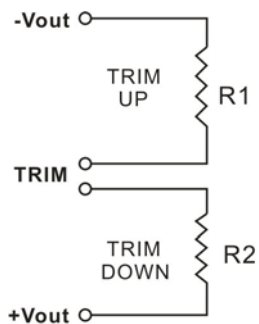


PIN#	Single
1	CTRL
2	-DC IN
3	+DC IN
4	TRIM
5	-DC OUT
6	+DC OUT

with Heatsink



**TRIM**



	R1	R2
12S	0~560K $\Omega$	75K~680K $\Omega$
15S	0~330K $\Omega$	150K~1M $\Omega$

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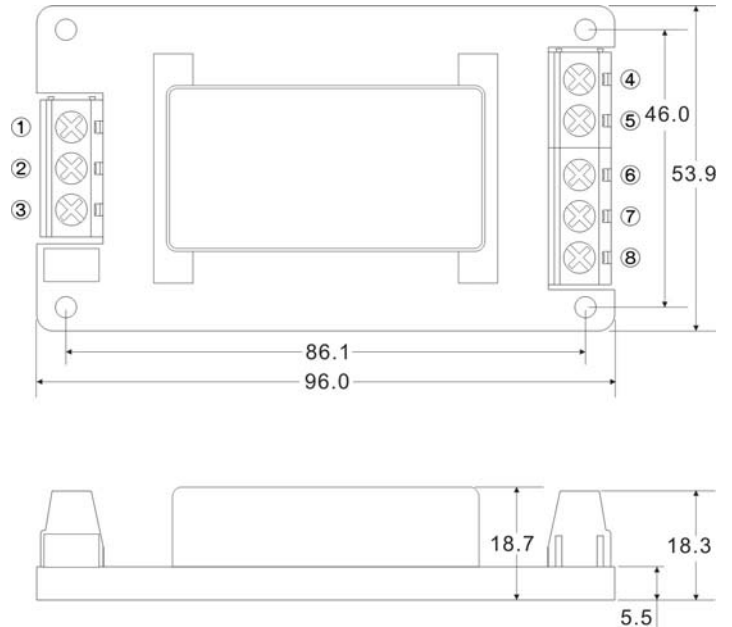
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**SCREW TERMINAL**

**ST60-A2**



PIN#	Single
1	CTRL
2	-DC IN
3	+DC IN
4.	TRIM
5	NO CONNECT
6	-DC OUT
7	NO CONNECT
8	+DC OUT



**ST60-A5**



PIN#	Single
1	CTRL
2	-DC IN
3	+DC IN
4.	TRIM
5	NO CONNECT
6	-DC OUT
7	NO CONNECT
8	+DC OUT

