

Product Specification

Encapsulated DC-DC Converter

Key Product 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

DPST60 Series 60 Watt



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

Product Specification

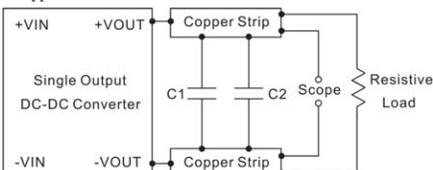
Model No.	with Heatsink	(Single Output)	DPST60-48F-12S X	DPST60-48F-15S X	DPST60-48F-24S X
Model No.	without Heatsink	(Single Output)	DPST60-48F-12S	DPST60-48F-15S	DPST60-48F-24S
Max Output Wattage (W) with Heatsink		(at 48 Vin)	60W		
Max Output Wattage (W) without Heatsink		(at 48 Vin)	60W	55.5W	56.4W

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

NOTES:

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



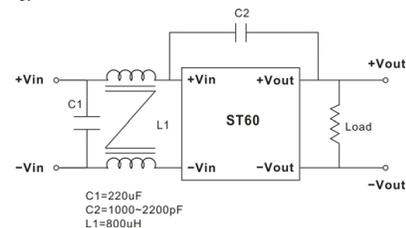
C1=0.1u~1uF

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 50mm and 75mm 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

Output				
Voltage (VDC)		12V	15V	24V
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	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 ⁸ 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		>550,000h @ 25°C (MIL-HDBK-217F)

Safety Approval	
Agency Approvals	CE

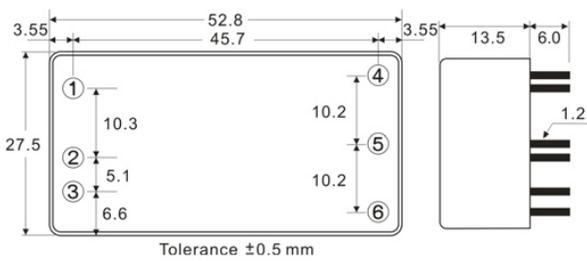
EMC		
EMI (Conducted & Radiated Emission)	(Note 3)	EN 55022 class A (In progress)
EMS (Noise Immunity)		EN 55024 (In progress)

Mechanical Specifications

Dimension	2.08 x 1.08 x 0.53 inches (52.8 x 27.5 x 13.5 mm) ; Tolerance $\pm 0.5\text{mm}$
Case Material	Six-side shielded Aluminum with Non-Conductive base, Black Anodize
Weight	In progress
Cooling Method	Free-air convection

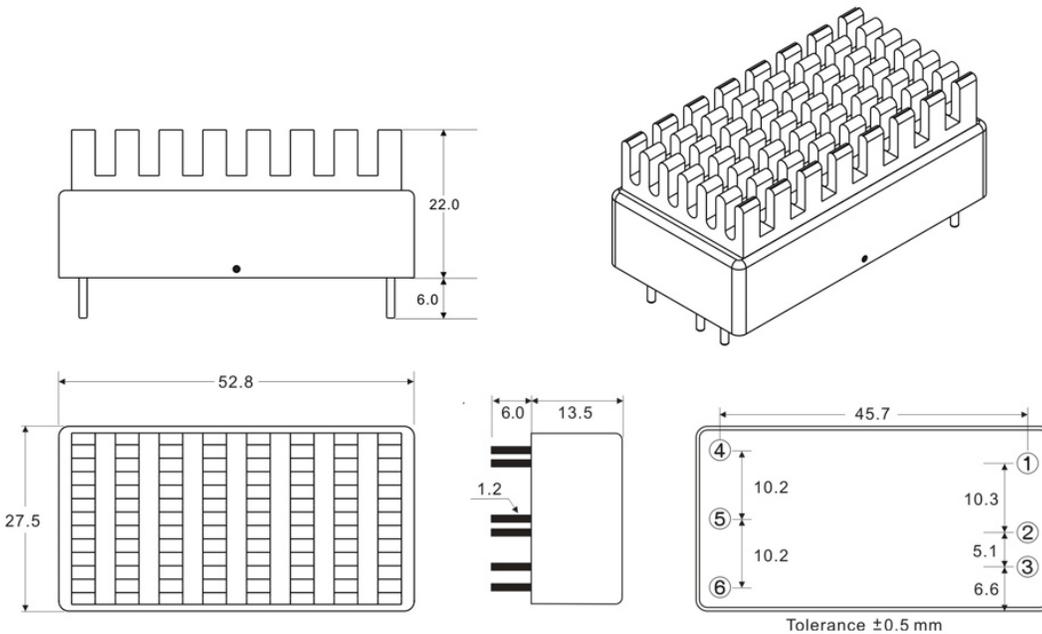
Mechanical Outline

WITHOUT HEATSINK

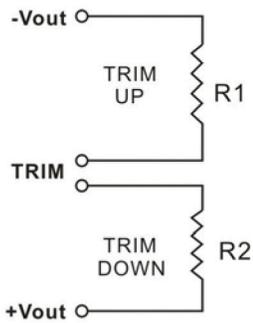


PIN#	Single
1	CTRL
2	-DC IN
3	+DC IN
4	TRIM
5	-DC OUT
6	+DC OUT

WITH HEATSINK

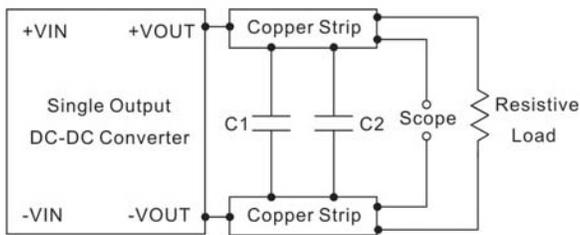


Trim



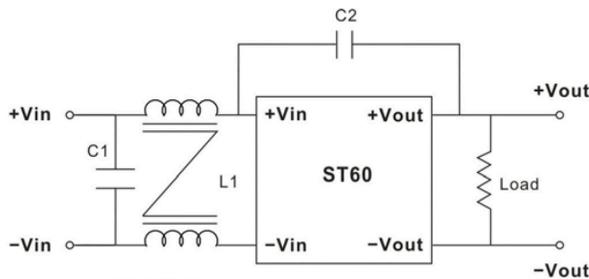
R1	R2
12S 0~560K Ω	75K~680K Ω
15S 0~330K Ω	150K~1M Ω

Block Diagram



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.

C1=0.1 μ ~1 μ F
C2=47 μ ~100 μ F



C1=220 μ F
C2=1000~2200pF
L1=800 μ H

Derating Curve

