



SUFA_MP-6W & SUFB_MP-6W Series

6W, WIDE INPUT, DUAL & SINGLE OUTPUT, DIP

DC-DC CONVERTER



FEATURES

Efficiency up to 86%
 Wide (4:1) Input Range
 1.5KVDC Input/Output Isolation
 Continuous Short-Circuit Protection
 Operating Temperature: -40°C~+85°C
 Internal SMD construction
 Metal Shielding Package
 No Heat Sink Required
 Industry-Standard Pinout
 MTBF>1,000,000 hours
 RoHS Compliance

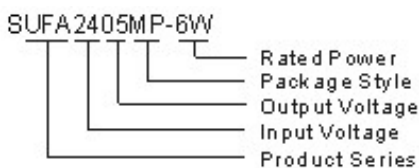
APPLICATIONS

The SUFA_MP-6W & SUFB_MP-6W Series are specially designed for applications where a wide range input voltage power supplies are isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

- 1) Where the voltage of the input power supply is wide range (voltage range \leq 4:1);
- 2) Where isolation is necessary between input and output (Isolation Voltage \leq 1500VDC);
- 3) Where the regulation of the output voltage and the output ripple noise are demanded.

MODEL SELECTION



PRODUCT PROGRAM

Part Number	Input			Output			Efficiency (% Typ)
	Voltage (VDC)			Voltage (VDC)	Current (mA)		
	Nominal	Range	Max*		Max	Min	
SUFA2405MP-6W	24	9-36	40	±5	±600	±60	80
SUFA 2412MP-6W				±12	±250	±25	82
SUFA 2415MP-6W				±15	±200	±20	82
SUFA 2424MP-6W				±24	±125	±13	85
SUFB2403MP-6W				3.3	1500	150	78
SUFB2405MP-6W				5	1200	120	80
SUFB2412MP-6W				12	500	50	82
SUFB2415MP-6W				15	400	40	82
SUFB2424MP-6W*				24	250	25	83
SUFA4805MP-6W**				48	18-72	80	±5
SUFA4812MP-6W	±12	±250	±25				82
SUFA4815MP-6W	±15	±200	±20				84
SUFA4824MP-6W	±24	±125	±13				85
SUFB4803MP-6W*	5	1500	150				76
SUFB4805MP-6W	5	1200	120				80
SUFB4812MP-6W	12	500	50				84
SUFB4815MP-6W*	15	400	40				85
SUFB4824MP-6W	24	250	25				86

* Input voltage can't exceed this value, or will cause the permanent damage.

** Designing.

Note: The load shouldn't be less than 10%, otherwise ripple will increase dramatically.

Operation under 10% load will not damage the converter; However, they may not meet all specification listed.

OUTPUT SPECIFICATIONS

Item	Test Conditions	Min	Typ	Max	Units
Output Power	See below products program			6	W
Line Regulation(at full load)	Input voltage from low to high		±0.2	±0.5	%
Load Regulation	From 10% To 100% load		±0.5	±2*	
Positive Voltage Accuracy	Refer to recommended circuit		±1	±3	
Negative Voltage Accuracy	Refer to recommended circuit		±3	±5	
Temperature Drift(Vout)	Refer to recommended circuit		0.02		%/°C
Ripple	20MHz bandwidth		30	50	mVp-p
Noise	20MHz bandwidth		100	300	
Switching Frequency	100% load, nominal Input voltage		300		KHz

* Dual output models unbalanced load: ±5%

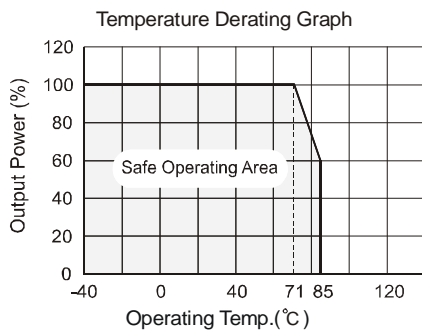
COMMON SPECIFICATION

Item	Test Conditions	Min	Typ	Max	Units
Storage humidity				95	%
Operating temperature		-40		85	°C
Storage temperature		-55		125	
Lead temperature	1.5mm from case for 10 seconds			300	
Temp. rise at full load			40		
Cooling		Free air convection			
Isolation voltage	Flash tested for 60 seconds	1500			VDC
Isolation resistance	Test at 500VDC	1000			MΩ
Short circuit protection		Continuous, automatic recovery			
Case material		Copper, Nickel Plated			
MTBF		1000			K Hours
Weigh			17		g

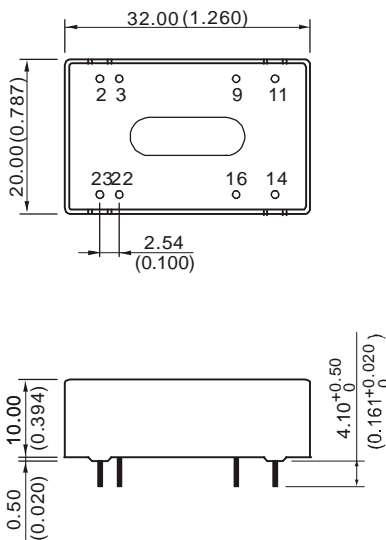
Note:

- All specifications measured at $T_A=25^{\circ}\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- See below recommended circuits for more details.

TYPICAL CHARACTERISTICS



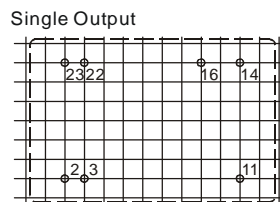
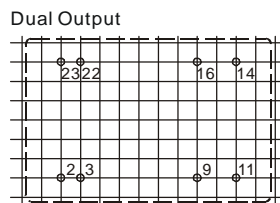
OUTLINE DIMENSIONS & PIN CONNECTIONS



Note:
 Unit: mm (inch)
 Pin section: 0.50mm (0.020 inch)
 Pin tolerances: $\pm 0.05\text{mm}$ ($\pm 0.002\text{inch}$)
 General tolerances: $\pm 0.25\text{mm}$ ($\pm 0.010\text{inch}$)

First Angle Projection

RECOMMENDED FOOTPRINT
 Top view, grid: 2.54mm (0.1 inch),
 diameter: 1.00mm



FOOTPRINT DETAILS

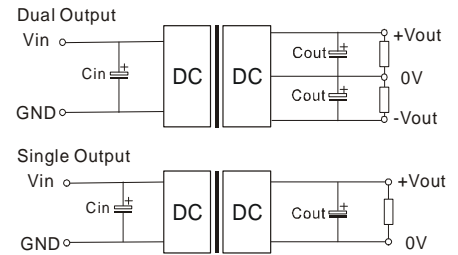
Pin	Single	Dual
2,3	GND	GND
9	NP	COM
11	NC	-Vo
14	+Vo	+Vo
16	0V	COM
22,23	Vin	Vin

NC: No Connection

APPLICATION NOTE

Recommended Circuit

All the SVFA_MP-6W&SVFB_MP-6W Series have been tested according to the following recommended testing circuit before leaving factory. This series should be tested under load. Never be tested under no load (see Figure 1).



(Figure 1)

If you want to further decrease the output ripple, you can increase capacitance properly or choose capacitors with low ESR. However, the capacitance should not be too high. (Table 1).

External Capacitor Table (Table 1)

Vin (VDC)	Cin (uF)	Single Vout (VDC)	Cout (uF)	Dual Vout (VDC)	Cout (uF)
24	100	5	100	± 5	100
48	100	12	100	± 12	47
--	--	15	47	± 15	47
--	--	24	47	± 24	22