

# SVFA\_MP-6W & SVFB\_MP-6W Series

## 6W, WIDE INPUT, DUAL & SINGLE OUTPUT DIP PACKAGE DC-DC CONVERTER



### FEATURES

- DIP package
- Efficiency up to 85%
- 2:1 wide input voltage 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

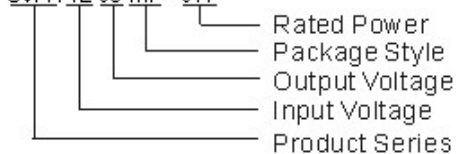
The SVFA\_MP-6W & SVFB\_MP-6W series are specially designed for applications where a wide range input voltage power supplies are isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

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

### MODEL SELECTION

SVFA-12 05 MP - 6W



### PRODUCT PROGRAM

Part Number	Input			Output			Efficiency (% Typ.)
	Voltage (VDC)			Voltage (VDC)	Current (mA)		
	Nominal	Range	Max.*		Max.	Min.	
SVFA1205MP-6W	12	9-18	20	±5	±600	±60	79
SVFA1212MP-6W				±12	±250	±25	80
SVFA1215MP-6W				±15	±200	±20	80
SVFA1224MP-6W <sup>Δ</sup>				±24	±125	±13	80
SVFB1203MP-6W				3.3	1500	150	78
SVFB1205MP-6W				5	1200	120	78
SVFB1212MP-6W				12	500	50	82
SVFB1215MP-6W <sup>Δ</sup>				15	400	40	82
SVFB1224MP-6W				24	250	25	84
SVFA2405MP-6W <sup>Δ</sup>				24	18-36	40	±5
SVFA2412MP-6W	±12	±250	±25				82
SVFA2415MP-6W	±15	±200	±20				82
SVFA2424MP-6W <sup>Δ</sup>	±24	±125	±13				84
SVFB2403MP-6W	3.3	1500	150				76
SVFB2405MP-6W	5	1200	120				80
SVFB2412MP-6W	12	500	50				83
SVFB2415MP-6W <sup>Δ</sup>	15	400	40				83
SVFB2424MP-6W	24	250	25				85
SVFA4805MP-6W <sup>Δ</sup>	48	36-75	80				±5
SVFA4812MP-6W				±12	±250	±25	83
SVFA4815MP-6W <sup>Δ</sup>				±15	±200	±20	84
SVFA4824MP-6W <sup>Δ</sup>				±24	±125	±13	85
SVFB4803MP-6W <sup>Δ</sup>				3.3	1500	150	79
SVFB4805MP-6W				5	1200	120	81
SVFB4812MP-6W				12	500	50	82
SVFB4815MP-6W <sup>Δ</sup>				15	400	40	84
SVFB4824MP-6W				24	250	25	85

<sup>Δ</sup> Off production;

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

### SCHMID-MULTITECH GmbH

Weinbergstr. 60b  
93105 Tegernheim, Germany  
Tel.: +49-9403-9510-0  
Fax: +49-9403-9570-22  
Http://www.schmid-m.com

## OUTPUT SPECIFICATIONS

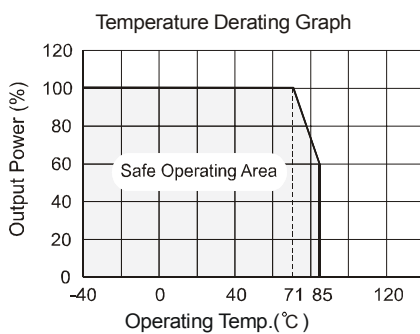
Item	Test Conditions	Min.	Typ.	Max.	Units
Output power	See above products program			6	W
Line regulation(at full load)	Input voltage from low to high		±0.2	±0.5	%
Load regulation	From 10% to 100% load		±0.5	±2*	
Positive voltage accuracy	Refer to recommended circuit		±1	±3	
Negative voltage accuracy	Refer 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, input voltage range		300		kHz

\*Dual output models unbalanced load: ±5%.  
 \*\*Test ripple and noise by "parallel cable" method. See detailed operation instructions at Testing of Power Converter section, application notes.

## COMMON SPECIFICATIONS

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		
Isolation voltage	Tested for 1 minute and 1 mA max	1500			VDC
Isolation resistance	Test at 500VDC	1000			MΩ
Cooling		Free air convection			
Short circuit protection		Continuous, automatic recovery			
Case material		Copper, Nickel Plated			
MTBF		1000			k hours
Weight			17		g

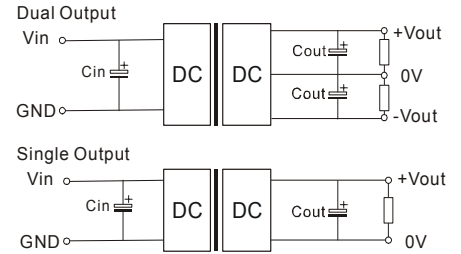
## TYPICAL CHARECTERISTICS



## 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)

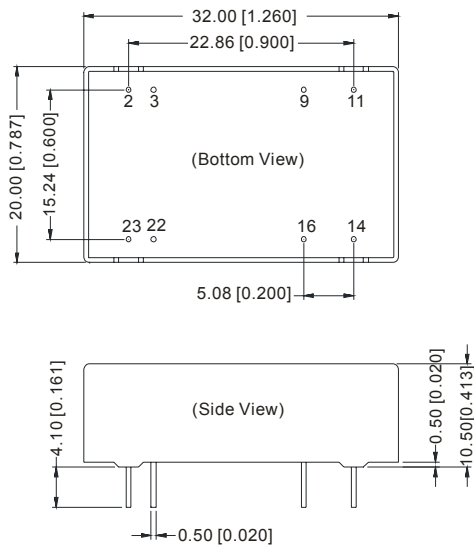
If you want to further decrease the output ripple, you can increase capacitance properly or choose capacitors with low ESR. However, the capacitance should not be too high (Table 1).

External Capacitor Table (Table 1)

Vin (VDC)	Cin (uF)	Single Vout (VDC)	Cout (uF)	Dual Vout (VDC)	Cout (uF)
12	100	3.3	100	-	-
24	100	5	100	±5	100
48	100	12	100	±12	47
-	-	15	47	±15	47
-	-	24	47	±24	22

## OUTLINE DIMENSIONS & PIN CONNECTIONS

### MECHANICAL DIMENSIONS

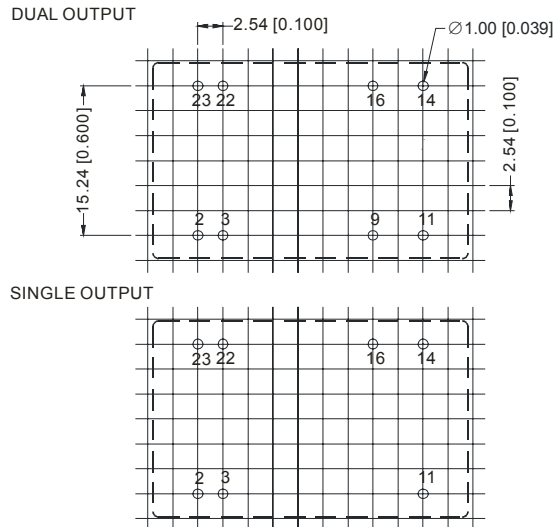


Note:  
 Unit:mm[inch]  
 Pin section tolerances:  $\pm 0.10\text{mm} [\pm 0.004\text{inch}]$   
 General tolerances:  $\pm 0.25\text{mm} [\pm 0.010\text{inch}]$

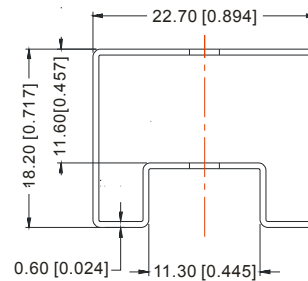
FOOTPRINT DETAILS		
Pin	Single	Dual
2,3	GND	GND
9	No Pin	0V
11	NC	-Vo
14	+Vo	+Vo
16	0V	0V
22,23	Vin	Vin

NC: No connection

### RECOMMENDED FOOTPRINT



### TUBE OUTLINE DIMENSIONS



Note:  
 Unit :mm[inch]  
 General tolerances:  $\pm 0.50\text{mm} [\pm 0.020\text{inch}]$   
 L=530mm[20.866inch] Tube Quantity: 15pcs  
 L=220mm[8.661inch] Tube Quantity: 6pcs

#### Note:

1. The load shouldn't be less than 10%, otherwise ripple will increase dramatically.
2. Operation under 10% load will not damage the converter; However, they may not meet all specification listed.
3. All specifications measured at  $T_a=25^\circ\text{C}$ , humidity<75%, nominal input voltage and rated output load unless otherwise specified.
4. In this datasheet, all the test methods of indications are based on corporate standards.
5. Only typical models listed, other models may be different, please contact our technical person for more details.