



# SUPERWORLD ELECTRONICS

## SW1 SM Series – 0.75W Single & Dual Surface Mount DC-DC Converter



RoHS Compliant



### FEATURES

- Low Cost, High Performance
- Industry standard 14-pin SMD package
- Single & Dual Isolated Outputs
- Operating Temp Range  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- 1 Year Warranty
- Internal Input and Output Filtering

### DESCRIPTION

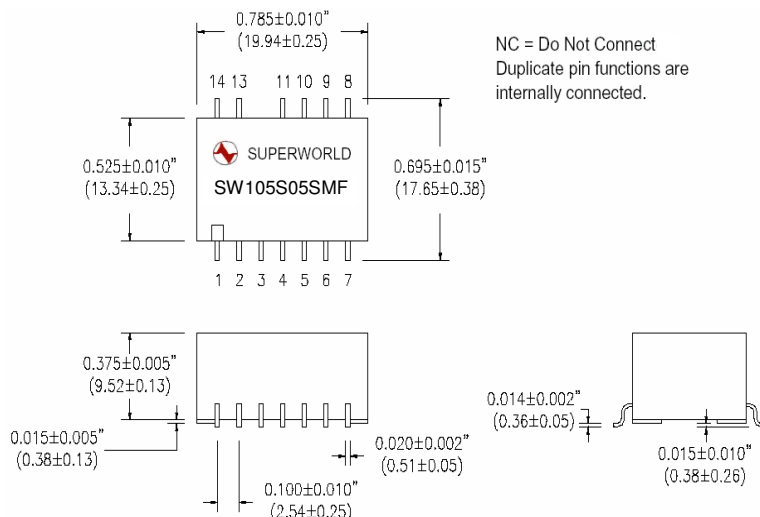
The SW1 SM Series is packaged in an industry standard SMD package, making it very suitable for high volume production. The package (19.9 x 13.5 x 9.5 mm) is fully encapsulated in a non-flammable plastic case (meeting UL 94V-0) and is designed to meet EN60950 and UL1950 safety standards. As outputs are fully isolated from the input, a variety of grounding and polarity configurations are available.

### SW1 SM PRODUCT RANGE

Model	Vin (nom) (Vdc)	Vout (Vdc)	Iout (mA)	Iin (rated load) (mA)	Eff. (%)
SW105S05SMF	5	5	150	217	69
SW105S12SMF	5	12	62	213	70
SW105S15SMF	5	15	50	211	71
SW105D05SMF	5	$\pm 5$	$\pm 75$	221	68
SW105D12SMF	5	$\pm 12$	$\pm 30$	219	68
SW105D15SMF	5	$\pm 15$	$\pm 25$	200	75
SW112S05SMF	12	5	150	81	77
SW112S12SMF	12	12	62	81	77
SW112S15SMF	12	15	50	81	77
SW112D05SMF	12	$\pm 5$	$\pm 75$	88	71
SW112D12SMF	12	$\pm 12$	$\pm 30$	84	74
SW112D15SMF	12	$\pm 15$	$\pm 25$	81	77
SW115S05SMF	15	5	150	72	69
SW115S12SMF	15	12	62	72	69
SW115S15SMF	15	15	50	72	69
SW115D05SMF	15	$\pm 5$	$\pm 75$	72	71
SW115D12SMF	15	$\pm 12$	$\pm 30$	64	74
SW115D15SMF	15	$\pm 15$	$\pm 25$	81	77
SW124S05SMF	24	5	150	47	69
SW124S12SMF	24	12	62	47	69
SW124S15SMF	24	15	50	45	69
SW124D05SMF	24	$\pm 5$	$\pm 75$	45	71
SW124D12SMF	24	$\pm 12$	$\pm 30$	46	74
SW124D15SMF	24	$\pm 15$	$\pm 25$	45	77

### MECHANICAL SPECIFICATIONS

Pin	Function (SINGLE)	Function (DUAL)
1	+Vin	+Vin
2	-Vin	-Vin
3	NC	NC
4	NC	NC
5	-Vout	-Vout
6	NC	Common
7	+Vout	+Vout
8	NC	NC
9	NC	NC
10	NC	NC
11	NC	NC
13	NC	NC
14	NC	NC



SW1 SM INPUT SPECIFICATIONS					
PARAMETER	CONDITIONS	MIN	TYPICAL	MAX	UNITS
Input Current (No Load)	5Vin models		20		mA
	12Vin models		10		
	15 & 24Vin models		8		
Voltage Range	5 Vin models	4.5	5	5.5	Vdc
	12 Vin models	10.8	12	13.2	
	15 Vin models	13.5	15	16.5	
	24 Vin models	21.5	24	26.5	

SW1 SM OUTPUT SPECIFICATIONS					
PARAMETER	CONDITIONS	MIN	TYPICAL	MAX	UNITS
Rated Power	All models			0.75	W
Voltage Setpoint Accuracy			± 5		%
Line Regulation	1% change in Vin		1.0	1.2	%
Load Regulation (10% load to rated load)	5Vout		5	10	%
	12 & 15 Vout		3	10	
Ripple & Noise	BW = DC to 20MHz All models		40	90	mVp-p
Maximum Voltage (1 mA load)	5 Vout models			7	Vdc
	12 Vout models			15	
	15 Vout models			18	
Temperature Coefficient			± 0.01		%/°C
Capacitive Load				10	µF
Short Circuit Protection				1	second

SW1 SM GENERAL CHARACTERISTICS					
PARAMETER	CONDITIONS	MIN	TYPICAL	MAX	UNITS
Temperature	Specification (5&12V input)	-40	--	85	°C
	Specification (15&24V input)	-40	--	70	°C
	Storage	-40	--	110	°C
Isolation	Isolation Test Voltage	750			Vdc
	Resistance	1	10		GΩ
	Capacitance		25	100	pF
	Leakage Current		2	8.5	µArms
Switching Frequency			120		kHz
MTTF (Ta = 25 °C)	MIL-HDBK-217E		450000		hrs
Weight			2		G

## CONTACT INFORMATION

### Superworld Electronics (S) Pte Ltd

16 New Industrial Road  
 #06-01 to 08 Hudson TechnoCentre  
 Singapore 536204  
 Tel : (65) 6298 2866  
 Fax : (65) 6298 8900  
 Email : [sales@superworld.com.sg](mailto:sales@superworld.com.sg)