



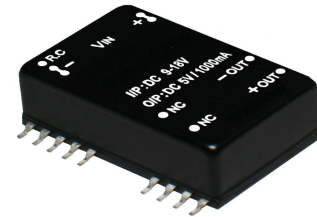
# SCHMID-M

## SCW Series

3W - 5W WIDE INPUT RANGE

### FEATURES

- 3W TO 5W & SMD PACKAGE
- 9-18V, 18-36V, 36-72V  
WIDE INPUT RANGE
- 100% BURN IN
- HIGH EFFICIENCY
- UL94 -V0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT



### OUTPUT SPECIFICATIONS

Voltage Setpoint Accuracy		
Single/Dual		+/-2% max.
Dual Separate	Out1	+/-2% max.
	Out2	+/-5% max.
Temperature Coefficient		+/-0.05%/°C
Ripple & Noise(20MHz BW) <sup>2</sup>		100mVp-p max.
Line Regulation <sup>3</sup>		
Single/Dual		+/-1% max.
Dual Separate	Out1	+/-1% max.
	Out2	+/-3% max.
Load Regulation <sup>5</sup>		
Single/Dual		+/-0.5% max.
	Output : 3.3V	+/-1% max.
Dual Separate	Out1	+/-1% max.
	Out2	+/-5% max.
Minimum Load		20% of Full Load
Short Circuit Protection		Continuous
Short Circuit Restart		Automatic
Over Load Protection	3W~5W	110%~180%
Transient Response <sup>6</sup>		200uS max.

### INPUT SPECIFICATIONS

Input Voltage Range	2:1 Input Range
Input Filter	Pi Network
Protection	Fuse Recommended
Remote ON/OFF Control	Table 1

### GENERAL SPECIFICATIONS

Efficiency		70% min.
Isolation Voltage <sup>1</sup>		
Single/Dual		1500VDC
Dual Separate	In to Out	1500VDC min.
	Out1 to Out2	500VDC min.
Isolation Resistance		10 <sup>9</sup> ohms min.
Isolation Capacitance		40pF max.
Switching Frequency		50KHz min.
MTBF <sup>4</sup>		>900,000 Hours
Weight		17.5g Typ.
Case Material		Five-Side Shielded Case
Case Size(SMD)		31.8mm*20.3mm*11.4mm

Potting Material(SMD)	Non potting
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class B

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°C to +71°C
Storage Temperature	-55°C to +125°C
Case Temperature	+95°C max.
Humidity	95% max.
Cooling	Free-Air Convection

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD, AND 25 °C UNLESS OTHERWISE NOTED.

● **SELECTION GUIDE**  
**2:1 3W OUTPUT(SMD PACKAGE)**

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>35</sup> CURRENT(mA)		EFF (%) <sup>36</sup>	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
SCWS-1205(ABC)3MS	9-18	5	600	313	18	80	1500
SCWS-1212(ABC)3MS	9-18	12	250	301	35	83	1500
SCWS-1215(ABC)3MS	9-18	15	200	298	18	84	1500
SCWD-1205(ABC)3MS	9-18	+/-5	+/-300	313	18	80	1500
SCWD-1212(ABC)3MS	9-18	+/-12	+/-125	301	30	83	1500
SCWD-1215(ABC)3MS	9-18	+/-15	+/-100	298	32	84	1500
SCWS-2405(ABC)3MS	18-36	5	600	154	10	81	1500
SCWS-2412(ABC)3MS	18-36	12	250	149	10	84	1500
SCWS-2415(ABC)3MS	18-36	15	200	147	10	85	1500
SCWD-2405(ABC)3MS	18-36	+/-5	+/-300	154	10	81	1500
SCWD-2412(ABC)3MS	18-36	+/-12	+/-125	149	15	84	1500
SCWD-2415(ABC)3MS	18-36	+/-15	+/-100	149	15	84	1500
SCWS-4805(ABC)3MS	36-72	5	600	75	5	83	1500
SCWS-4812(ABC)3MS	36-72	12	250	74	5	85	1500
SCWS-4815(ABC)3MS	36-72	15	200	74	5	85	1500
SCWD-4805(ABC)3MS	36-72	+/-5	+/-300	75	5	83	1500
SCWD-4812(ABC)3MS	36-72	+/-12	+/-125	74	5	85	1500
SCWD-4815(ABC)3MS	36-72	+/-15	+/-100	74	5	85	1500

*Note: Other input to output voltages may be available. Please contact factory.*

**ORDERING INFORMATION:**

**FOR EXAMPLE: SCWS-1205A3MS (SMD A PACKAGE 3W SINGLE OUTPUT)**

**SCWD-2405B3MS (SMD B PACKAGE 3W DUAL OUTPUT)**

● **SELECTION GUIDE**  
**2:1 5W OUTPUT(SMD PACKAGE)**

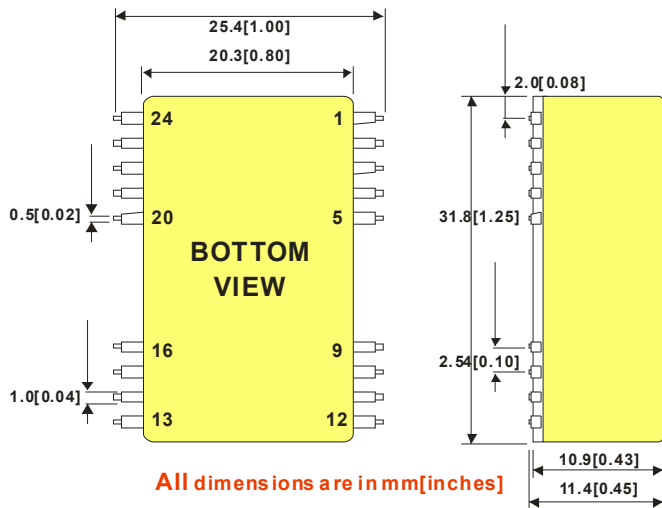
MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>37</sup> CURRENT(mA)		EFF (%) <sup>38</sup>	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
				SCWS-1205(ABC)5MS	9-18		
SCWS-1212(ABC)5MS	9-18	12	470	566	18	83	1500
SCWS-1215(ABC)5MS	9-18	15	400	595	18	84	1500
SCWD-1205(ABC)5MS	9-18	+/-5	+/-500	521	18	80	1500
SCWD-1212(ABC)5MS	9-18	+/-12	+/-230	554	30	83	1500
SCWD-1215(ABC)5MS	9-18	+/-15	+/-190	565	32	84	1500
SCWS-2405(ABC)5MS	18-36	5	1000	257	10	81	1500
SCWS-2412(ABC)5MS	18-36	12	470	283	10	83	1500
SCWS-2415(ABC)5MS	18-36	15	400	294	10	85	1500
SCWD-2405(ABC)5MS	18-36	+/-5	+/-500	257	10	81	1500
SCWD-2412(ABC)5MS	18-36	+/-12	+/-230	274	15	84	1500
SCWD-2415(ABC)5MS	18-36	+/-15	+/-190	283	15	84	1500
SCWS-4805(ABC)5MS	36-72	5	1000	127	5	82	1500
SCWS-4812(ABC)5MS	36-72	12	470	138	5	85	1500
SCWS-4815(ABC)5MS	36-72	15	400	147	5	85	1500
SCWD-4805(ABC)5MS	36-72	+/-5	+/-500	127	5	82	1500
SCWD-4812(ABC)5MS	36-72	+/-12	+/-230	135	5	85	1500
SCWD-4815(ABC)5MS	36-72	+/-15	+/-190	140	5	85	1500

*Note: Other input to output voltages may be available. Please contact factory.*

**ORDERING INFORMATION:**

**FOR EXAMPLE:** SCWS-1205A5MS (SMD A PACKAGE 5W SINGLE OUTPUT)  
 SCWD-2405B5MS (SMD B PACKAGE 5W DUAL OUTPUT)

## SMD PACKAGE



## SMD PACKAGE "A"

PIN	SINGLE	DUAL
1	ON/OFF	ON/OFF
2 & 3	-Vin	-Vin
4 & 5	NC	NC
9	NC	COM
10 & 12	NC	NC
11	NC	-VOUT
13 & 15	NC	NC
14	+VOUT	+VOUT
16	-VOUT	COM
20 & 21	NC	NC
22 & 23	+VIN	+VIN
24	NC	NC

## SMD PACKAGE "B"

PIN	SINGLE	DUAL
1 & 24	+Vin	+Vin
2 & 23	NC	-Vout
3 & 22	NC	Common
4 & 21	NC	NC
5 & 20	NC	NC
9 & 16	NC	NC
10 & 15	-Vout	Common
11 & 14	+Vout	+Vout
12 & 13	-Vin	-Vin

## SMD PACKAGE "C"

PIN	SINGLE	DUAL
1 & 2	+Vin	+Vin
3 & 4	NC	NC
5 & 9	NC	NC
10 & 11	NC	Common
12	-Vout	NC
13	+Vout	-Vout
14 & 16	NC	NC
15	NC	+Vout
20 & 21	NC	NC
22	NC	NC
23 & 24	-Vin	-Vin

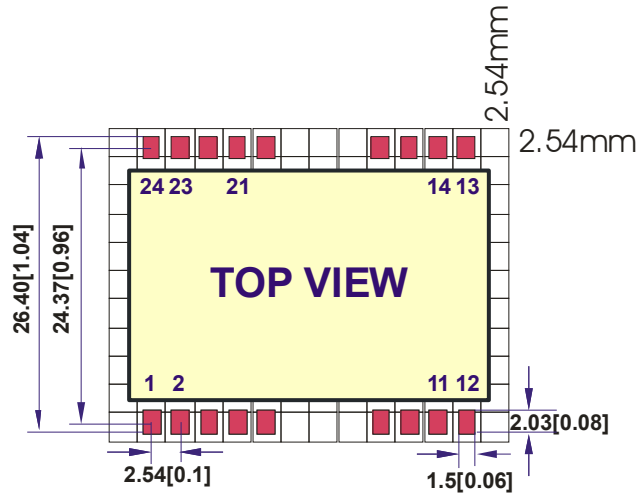
### NOTE:

All Dimensions In mm(Inches)

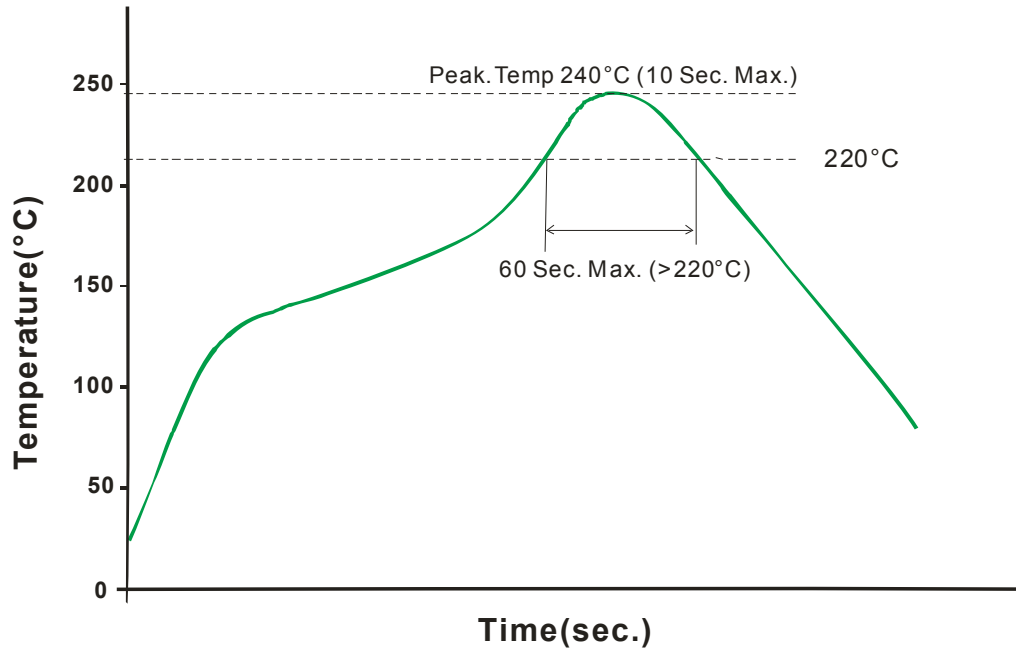
Pin Size is Tolerance 0.5 ±0.05mm

Tolerance .X or .XX= ±0.5mm

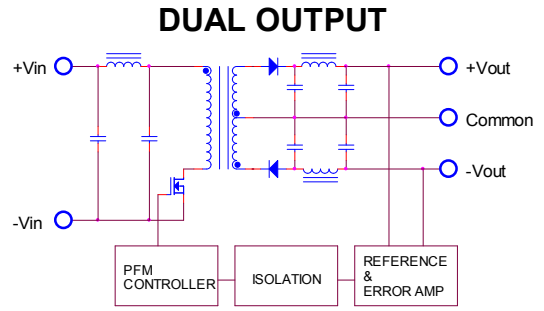
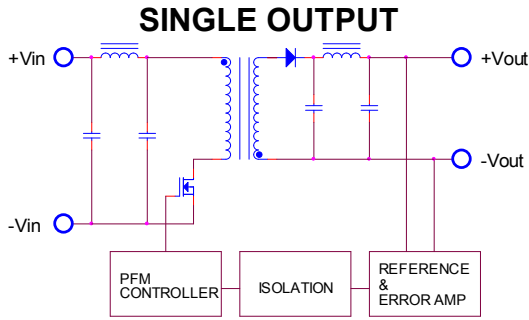
## PACKAGE "S" [SMD]



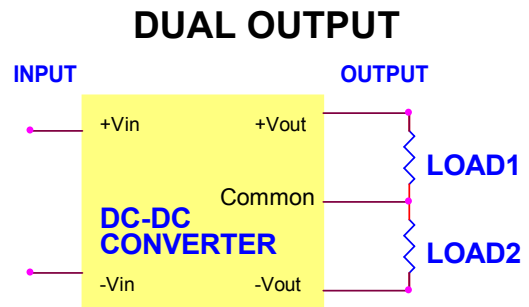
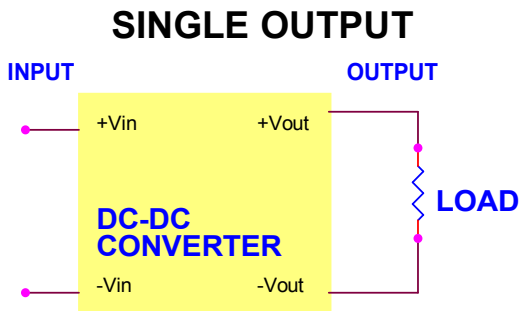
### ● RECOMMENDED REFLOW SOLDERING PROFILE



## ● SIMPLIFIED SCHEMATIC



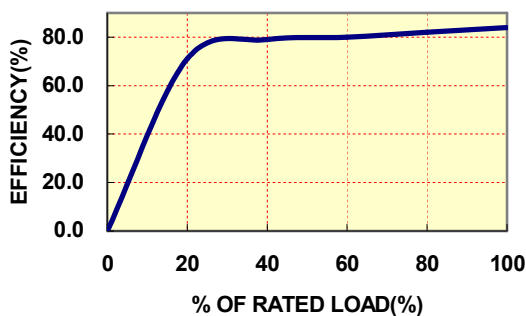
## ● TYPICAL APPLICATIONS



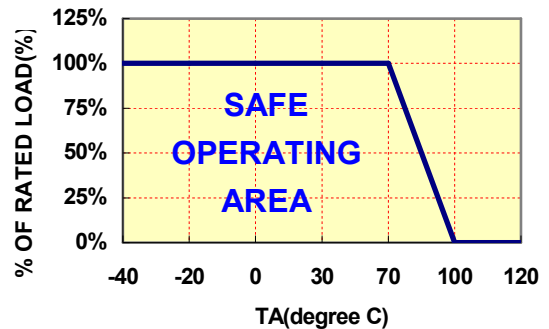
## ● TYPICAL PERFORMANCE CURVES

Specifications typical at  $T_a=25^\circ\text{C}$ , nominal input voltage, rated output current unless otherwise specified.

### OUTPUT LOAD VS EFFICIENCY



### TEMPERATURE DERATING



## ● Table1 (Remote On/Off Control)

Remote On/Off Control		
Parameter	Min	Max
Supply On	Under 1 VDC or Open Circuit	
Supply Off	4VDC	
Standby Input Current		0.2mA
Control Input Current(On)		-0.5mA
Control Input Current(Off)		5mA
Control Common	Referenced to -Vin	

## ● INPUT FUSE SELECTION GUIDE

9-18V INPUT VOLTAGE(VDC)	18-36V INPUT VOLTAGE(VDC)	36-72V INPUT VOLTAGE(VDC)
1500mA Slow-Blow Type	800mA Slow-Blow Type	400mA Slow-Blow Type

The diagram shows a DC-DC converter block with a yellow background. On the left, there are two input terminals: +Vin (top) and -Vin (bottom). On the right, there are two output terminals: +Vout (top) and -Vout (bottom). A fuse is connected between the input and the +Vin terminal. The word 'DC-DC CONVERTER' is written in blue on the yellow block. The word 'FUSE' is written below the fuse symbol. The word 'INPUT' is written in blue above the input terminals, and 'OUTPUT' is written in blue above the output terminals.

**Note:** Certain applications may require the installation of external fuse in front of the input.

## SCW SERIES APPLICATION NOTES:

### EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the SCW series.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 100KHz is required.

External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Additional output capacitance may be added for increased filtering, but should not exceed 1000uF.

We Can Offer EMC-Filter According To EN55011/22 Class B.

### Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.