

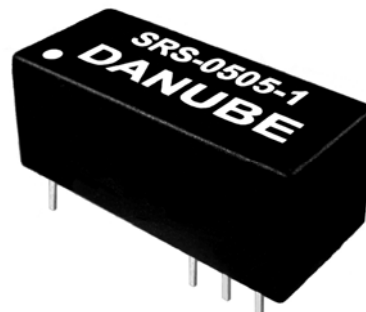
# SR SERIES

0.5W TO 1W REGULATED

# DANUBE

## FEATURES

- DUAL IN LINE PACKAGE
- UP TO 1W REGULATED OUTPUT POWER
- 100% BURNED IN
- EFFICIENCY UP TO 63%
- INTERNAL SMD TECHNOLOGY
- LOW COST
- NO HEATSINK REQUIRED
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY



OUTPUT SPECIFICATIONS		INPUT SPECIFICATIONS	
Voltage Setpoint Accuracy	+/-3% max	Input Voltage Range	+/-10% max
Temperature Coefficient	+/-0.05%/°C	Input Filter	Capacitor Typ
Ripple & Noise(20MHz BW) <sup>1</sup>	100mVp-p max	Protection	Fuse Recommended
Line Regulation <sup>2</sup>	+/-1% max	<b>GENERAL SPECIFICATIONS</b>	
Load Regulation <sup>3</sup>	+/-1% max	Efficiency	50% min
Minimum Load	10% of Full Load	Isolation Voltage <sup>4</sup>	1500VDC min
Short Circuit Protection	Current Limit Protection	Isolation Resistance	10 <sup>9</sup> ohms min
Short Circuit Restart	Automatic	Isolation Capacitance	80pF max
Transient Response <sup>5</sup>	200uS max	Switching Frequency	50KHz min
<b>ENVIRONMENTAL SPECIFICATIONS</b>		MTBF <sup>6</sup>	>2,000,000 Hours
Operating Temperature	-25 °C to +71 °C	Weight	3.1g Typ
Case Temperature	+90 °C max	Case Material	Non-Conductive Plastic
Storage Temperature	-55 °C to +125 °C	Case Size	22.6mm*9.9mm*8.4mm
Humidity	95% max	Conducted Emissions	EN55022 Class A
Cooling	Free-Air Convection	Radiated Emissions	EN55022 Class A

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

<sup>1</sup> Measured with 1uF ceramic capacitor connect to the output pins.

<sup>2</sup> High Line to Low Line.

<sup>3</sup> Load Regulation is for output load current change from 10% to 100%.

<sup>4</sup> For 10 seconds.

<sup>5</sup> 25% Step Load Change.

<sup>6</sup> MIL-HDBK-217F @25 °C, Ground Benign.

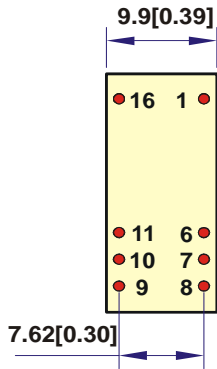
● **SELECTION GUIDE**  
**0.5W-1W OUTPUT**

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT CURRENT(mA)		EFF (%)	ISOLATION (VDC)	OUTPUT POWER (Watt)
				FULL LOAD	NO LOAD			
SRS-0505-1	4.5-5.5	5	100	167	35	60	1500	0.5W
SRS-0509-1	4.5-5.5	9	56	175	35	57	1500	0.5W
SRS-0512-1	4.5-5.5	12	42	173	36	58	1500	0.5W
SRS-0515-1	4.5-5.5	15	34	173	37	58	1500	0.5W
SRS-1205-1	10.8-13.2	5	100	68	15	61	1500	0.5W
SRS-1209-1	10.8-13.2	9	56	70	13	60	1500	0.5W
SRS-1212-1	10.8-13.2	12	42	70	12	60	1500	0.5W
SRS-1215-1	10.8-13.2	15	34	72	13	58	1500	0.5W
SRS-2405-1	21.6-26.4	5	100	34	8	61	1500	0.5W
SRS-2409-1	21.6-26.4	9	56	35	9	60	1500	0.5W
SRS-2412-1	21.6-26.4	12	42	36	9	58	1500	0.5W
SRS-2415-1	21.6-26.4	15	34	36	9	58	1500	0.5W
SRS-4805-1	43.2-52.8	5	100	18	4	58	1500	0.5W
SRS-4809-1	43.2-52.8	9	56	19	5	55	1500	0.5W
SRS-4812-1	43.2-52.8	12	42	19	5	55	1500	0.5W
SRS-4815-1	43.2-52.8	15	34	19	5	55	1500	0.5W
SRS-0505-2	4.5-5.5	5	200	330	40	61	1500	1W
SRS-0509-2	4.5-5.5	9	100	340	40	59	1500	1W
SRS-0512-2	4.5-5.5	12	84	345	45	58	1500	1W
SRS-0515-2	4.5-5.5	15	67	345	45	58	1500	1W
SRS-1205-2	10.8-13.2	5	200	135	15	62	1500	1W
SRS-1209-2	10.8-13.2	9	100	136	16	61	1500	1W
SRS-1212-2	10.8-13.2	12	84	140	16	60	1500	1W
SRS-1215-2	10.8-13.2	15	67	140	16	60	1500	1W
SRS-2405-2	21.6-26.4	5	200	66	7	63	1500	1W
SRS-2409-2	21.6-26.4	9	100	61	10	61	1500	1W
SRS-2412-2	21.6-26.4	12	84	69	10	60	1500	1W
SRS-2415-2	21.6-26.4	15	67	69	10	60	1500	1W
SRS-4805-2	43.2-52.8	5	200	34	6	61	1500	1W
SRS-4809-2	43.2-52.8	9	100	36	7	58	1500	1W
SRS-4812-2	43.2-52.8	12	84	35	7	60	1500	1W
SRS-4815-2	43.2-52.8	15	67	35	8	60	1500	1W

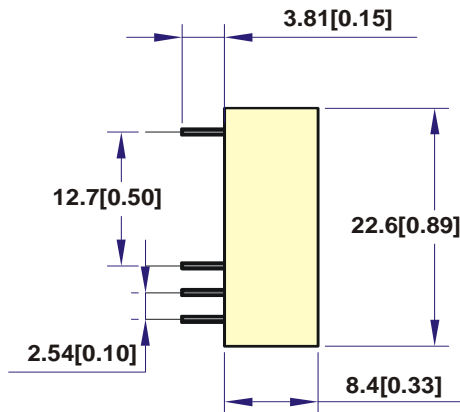
*Note: Other input to output voltages may be available. Please contact factory.*

## MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

**BOTTOM VIEW**



**SIDE VIEW**



PIN	SINGLE
1 & 16	+Vin
6 & 11	-Vout
7 & 10	+Vout
8 & 9	-Vin

NOTE : All Dimensions In mm(Inches)

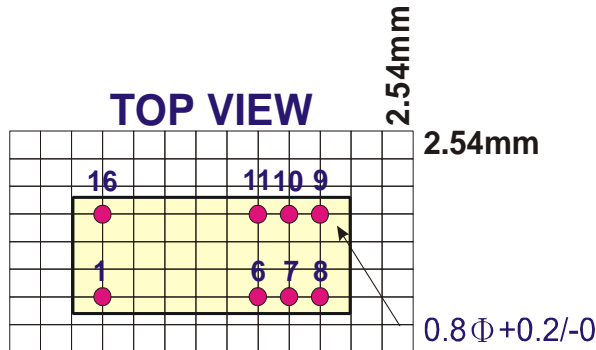
1. Pin Size is 0.50x0.30mm[0.02x0.01"]

2. Pin is Tolerance .XX= ±0.05mm

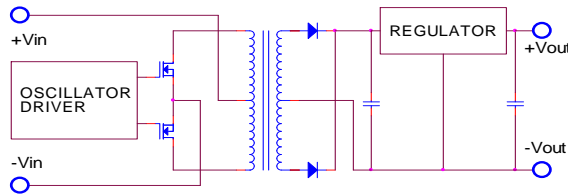
3. Tolerance .X or .XX= ±0.5mm

All dimensions are in mm[inches]

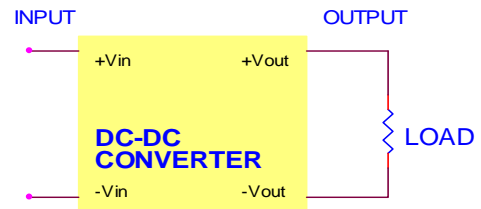
**TOP VIEW**



## SIMPLIFIED SCHEMATIC



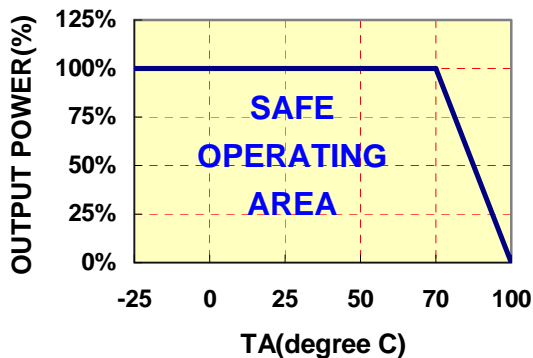
## TYPICAL APPLICATIONS



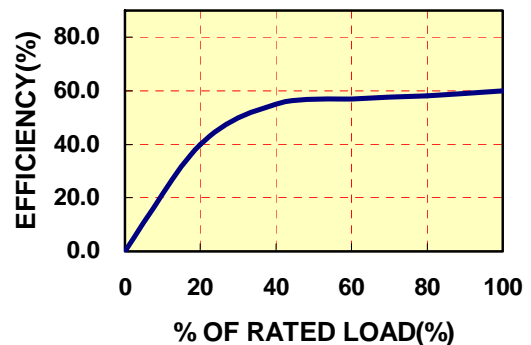
## TYPICAL PERFORMANCE CURVES

Specifications typical at TA=25°C, nominal input voltage , rated output current unless otherwise specified.

**DERATING CURVES**



**EFFICIENCY VS LOAD**



## ● INPUT FUSE SELECTION GUIDE

4.5-5.5V	10.8-13.2V	21.6-26.4V	43.2-52.8V
INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)
500mA Slow-Blow Type	200mA Slow-Blow Type	100mA Slow-Blow Type	60mA Slow-Blow Type

The diagram shows a yellow rectangular block labeled 'DC-DC CONVERTER'. On the left side, there are two terminals: '+Vin' (top) and '-Vin' (bottom). On the right side, there are two terminals: '+Vout' (top) and '-Vout' (bottom). A blue line labeled 'INPUT' enters from the left, passes through a component labeled 'Fuse' (represented by a circle with a wavy line), and then connects to the '+Vin' terminal. A blue line labeled 'OUTPUT' exits from the right, connecting to the '+Vout' terminal. There are also lines connecting to the '-Vin' and '-Vout' terminals.

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

## SR SERIES APPLICATION NOTES:

### EXTERNAL CAPACITANCE REQUIREMENTS:

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

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 250KHz 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 470uF.

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.

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## FOR MORE INFORMATION CALL:

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Home Page

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