

# ESD0.1S-AU SERIES

## 0.1W UNREGULATED

# E-STAR

### FEATURES

- DUAL IN LINE PACKAGE
- 100% BURN IN
- INTERNAL SMD TECHNOLOGY
- LOW COST
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- MTBF>1,000,000 HOURS
- RoHS COMPLIANT
- 3 YEARS WARRANTY



### OUTPUT SPECIFICATIONS

Voltage Set-point Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) <sup>1</sup>	100mVp-p max.
Line Regulation <sup>2</sup>	+/-1.5% max.
Load Regulation <sup>3</sup>	+/-12% max.
Minimum Load	10% of Full Load
Short Circuit Protection	Momentary

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 °C to +85 °C
Case Temperature	+100 °C max.
Storage Temperature	-55 °C to +125 °C
Humidity	95% max.
Cooling	Free-Air Convection

### INPUT SPECIFICATIONS

Input Voltage Range	+/-10% max.
Input Filter Protection	Capacitor Type Fuse Recommended

### GENERAL SPECIFICATIONS

Efficiency	50% typ.
Isolation Voltage <sup>4</sup>	1500 VDC min.
Isolation Resistance	10 <sup>9</sup> ohms min.
Isolation Capacitance	80pF max.
Switching Frequency	100KHz typ.
MTBF <sup>5</sup>	>1,000,000 Hours
Weight	1.5g typ.
Case Material	Non-Conductive Plastic
Case Size	9.4mm*8.8mm*6.35mm
Radiated Emissions	EN55022 Class B

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> Line Regulation is for a 1.0% change in input Voltage.

<sup>3</sup> Load Regulation is for output load current change from 20% to 100%.

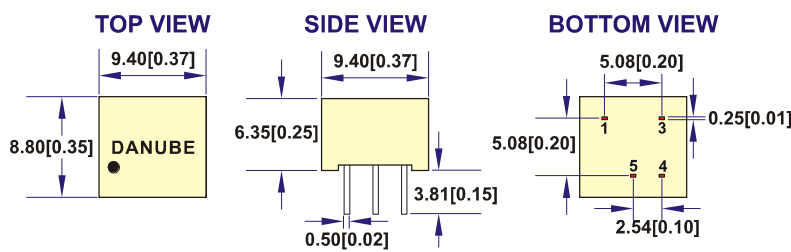
<sup>4</sup> 1500VDC for 10 seconds.

<sup>5</sup> MIL-HDBK-217F @25 °C , Ground Benign.

## ● SELECTION GUIDE

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>6</sup> CURRENT(mA)		EFF (%) <sup>7</sup>	ISOLATION (VDC) <sup>8</sup>
				FULL LOAD	NO LOAD		
ESD0.1S-AU0503.3	5	3.3	30	41	20	50	1500
ESD0.1S-AU0505	5	5	20	41	20	50	1500

## ● MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

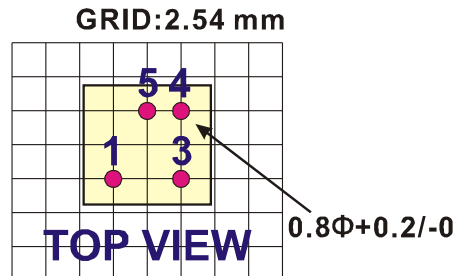


All dimensions are in mm[inches]

PIN	SINGLE
1	-Vin
3	+Vin
4	+Vout
5	-Vout

NOTE : All dimensions are 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



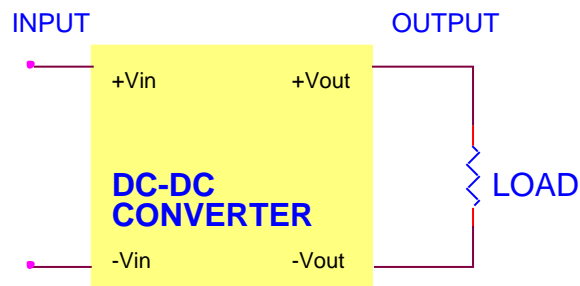
<sup>6</sup> NOMINAL INPUT VOLTAGE.

<sup>7</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.

<sup>8</sup> 1500VDC for 10 seconds.

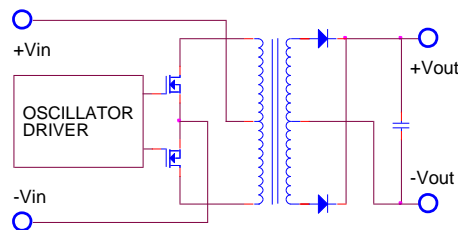
- **TYPICAL APPLICATIONS**

**SINGLE OUTPUT**



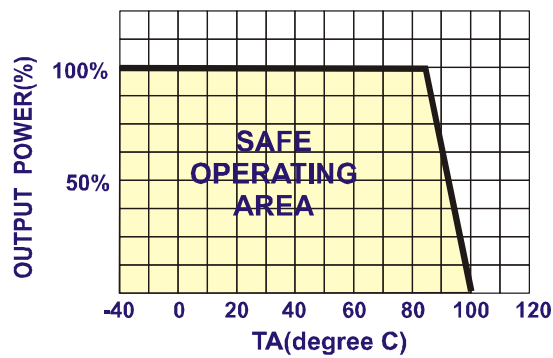
- **SIMPLIFIED SCHEMATIC**

**SINGLE OUTPUT**

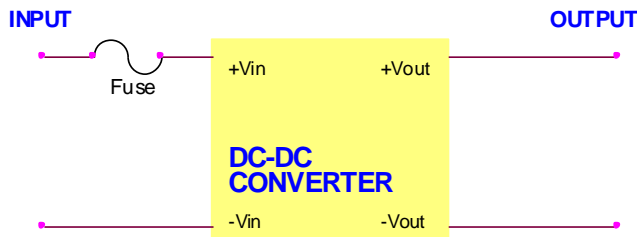


- **TYPICAL PERFORMANCE CURVES**

**DERATING CURVE**



## ● INPUT FUSE SELECTION GUIDE

2.97V-3.63V INPUT VOLTAGE(VDC)	4.5V-5.5V INPUT VOLTAGE(VDC)
200mA Slow-Blow Type	150mA Slow-Blow Type
 <p>The diagram shows a yellow rectangular 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 purple line representing the input wire enters from the left, passes through a component labeled 'Fuse', and then connects to the +Vin terminal. Another purple line representing the output wire exits from the +Vout terminal and is labeled 'OUTPUT'. The word 'INPUT' is written above the input wire, and 'OUTPUT' is written above the output wire.</p>	

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

### ESD0.1S-AU SERIES APPLICATION NOTES:

#### EXTERNAL CAPACITANCE REQUIREMENTS:

Output filtering is required for operation. A minimum of 10 $\mu$ F is needed. Output capacitance may be increased for additional filtering, not to exceed 220 $\mu$ F.

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

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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