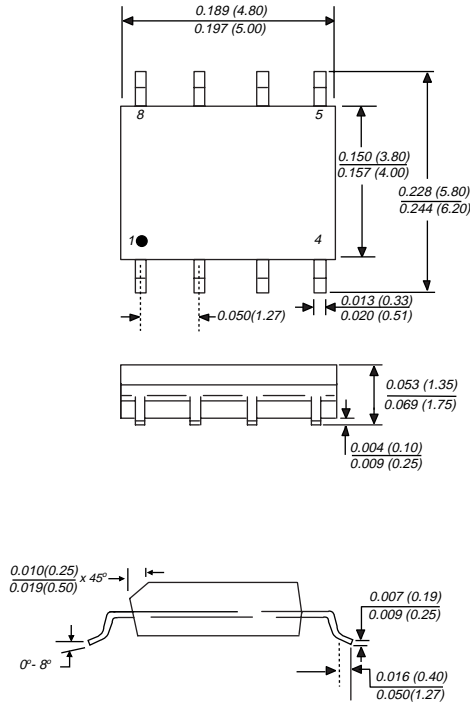


# SMDA05C-4 THRU SMDA24C-4

## SURFACE MOUNT DIODE ARRAY TRANSIENT VOLTAGE SUPPRESSOR

**Stand-off Voltage - 5.0 to 24 Volts    Peak Pulse Power - 300 Watts**

**SO-8/MS-012-AA**



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Offers ESD protection in accordance with IEC1000-4-2 (IEC801-2)
- ◆ Monolithic TVS junctions
- ◆ 300W peak pulse power reverse surge capability
- ◆ Excellent clamping capability
- ◆ Protection of up to four data lines
- ◆ Fast response time: typically less than 5.0ns from 0 Volts to  $V_{(BR)}$
- ◆ High temperature soldering guaranteed: 265°C for 5 seconds at terminals



### MECHANICAL DATA

**Case:** JEDEC MS-012-AA molded plastic, over passivated junctions

**Terminal:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Bidirectional as marked

**Mounting Position:** Any

**Weight:** 0.04 ounce, 1.00 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak power dissipation with a 8.0/20μs waveform	P <sub>PPM</sub>	Minimum 300	Watts
Peak power pulse current with a 8.0/20μs waveform	I <sub>PPM</sub>	20.0 15.0 12.0 7.5	Amps
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-50 to +125	°C

#### NOTES:

- (1) Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub>=25°C per Fig. 2
- (2) Mounted on copper pad areas of 0.045 x 0.030" (1.14 x 0.076mm) per leg

### BIDIRECTIONAL APPLICATIONS

All electrical characteristics apply in both direction

## ELECTRICAL CHARACTERISTICS at 25°C

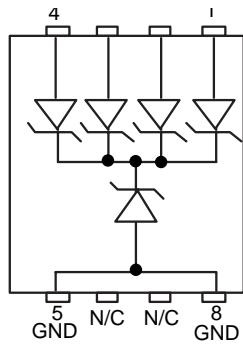
PART NUMBER	DEVICE MARKING CODE	STANDOFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE at $I_T=1.0\text{mA}$ (NOTE 1)	MAXIMUM CLAMPING VOLTAGE at $I_{PP} = 1\text{A}$	MAXIMUM CLAMPING VOLTAGE at $I_{PP} = 5\text{A}$	MAXIMUM REVERSE LEAKAGE CURRENT at $V_{WM}$	MAXIMUM JUNCTION CAPACITANCE (NOTE 3)
BIDIRECTIONAL		$V_{WM}$ Volts	$V_{(BR)}$ Volts	$V_C$ (NOTE 2) Volts	$V_C$ (NOTE 2) Volts	$I_D$ $\mu\text{A}$	$C_J$ pF
SMDA05C-4	REB	5.0	*6.0	9.8	11.0	100.0	350
SMDA12C-4	RED	12.0	13.4	19.0	24.0	1.0	150
SMDA15C-4	REF	15.0	16.7	24.0	30.0	1.0	120
SMDA24C-4	REH	24.0	26.7	43.0	55.0	1.0	100

### NOTES:

- (1)  $V_{(BR)}$  measured at pulse width of 300 $\mu\text{s}$  sq. wave or equivalent  
 (2) Surge current waveform per Fig. 3 and derate per Fig. 2  
 (3) Junction capacitance measured at 1.0 MHz and applied  $V_R=0$  volts  
 \* $V_{(BR)}$  test current is ( $I_T$ ) is 10 mA

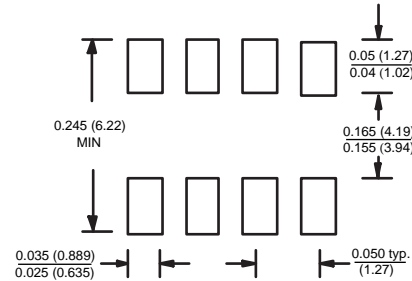
\*Application note: Due to the topology of the SMDA array, the  $V_{RWM}$  and  $V_{(BR)}$  specifications also apply to the differential voltage between any two data line pins. Hence the SMDA12C-4 is designed to "see" a maximum voltage excursion of  $\pm 6$  volts between any two data lines.

### CIRCUIT DIAGRAM\* - top view



\*SMDA05C-4 is common anode configuration

### SOLDER PAD GEOMETRY



Dimensions in inches and (millimeters)

## RATING AND CHARACTERISTIC CURVES FOR SMDA05C-4 THRU SMDA24C-4

