

# SMDA05-6R2

## Unidirectional TVS Array for High-Speed Data Line Protection

The SMDA05-6R2 transient voltage suppressor is designed to protect equipment attached to up to six high speed communication lines from ESD, EFT, and lightning.

### Features:

- SO-8 Package
- Peak Power – 400 Watts 8 x 20  $\mu$ S
- ESD Rating:
  - IEC 61000-4-2 (ESD) 15 kV (air) 8 kV (contact)
  - IEC 61000-4-4 (EFT) 40 A (5/50 ns)
  - IEC 61000-4-5 (lightning) 12 (8/20  $\mu$ s)
- UL Flammability Rating of 94 V-0

### Typical Applications:

- High Speed Communication Line Protection
- 5.0 V Data and I/O Lines
- Microprocessor Based Equipment
- LAN/WAN Equipment
- Servers
- Notebook and Desktop PC
- Instrumentation
- Peripherals

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Power Dissipation 8 x 20 $\mu$ s @ $T_A = 25^\circ\text{C}$ (Note 1)	$P_{pk}$	400	W
Peak Pulse Current 8 x 20 $\mu$ s @ $T_A = 25^\circ\text{C}$ (Note 1)	$I_{pp}$	17	A
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$
Lead Solder Temperature – Maximum 10 Seconds Duration	$T_L$	260	$^\circ\text{C}$

1. Non-repetitive current pulse 8 x 20  $\mu$ S exponential decay waveform

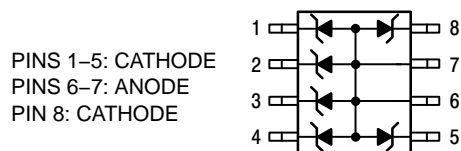


**ON Semiconductor®**

<http://onsemi.com>

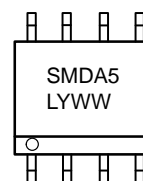
### SO-8 VOLTAGE SUPPRESSOR 300 WATTS PEAK POWER 6 VOLTS

#### PIN CONFIGURATION AND SCHEMATIC



SO-8  
CASE 751  
PLASTIC

#### MARKING DIAGRAM



SMDA5 = Device Code  
L = Location Code  
Y = Year  
WW = Work Week

#### ORDERING INFORMATION

Device	Package	Shipping†
SMDA05-6R2	SO-8	2500 Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

# SMDA05-6R2

## ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage @ $I_t = 1.0 \text{ mA}$	$V_{BR}$	6.0	–	–	V
Reverse Leakage Current @ $V_{RWM} = 5.0 \text{ Volts}$	$I_R$	N/A	–	20	$\mu\text{A}$
Maximum Clamping Voltage @ $I_{PP} = 1.0 \text{ A}, 8 \times 20 \mu\text{S}$	$V_C$	N/A	–	9.8	V
Maximum Clamping Voltage @ $I_{PP} = 5.0 \text{ A}, 8 \times 20 \mu\text{S}$	$V_C$	N/A	–	11	V
Maximum Peak Pulse Current	$I_{PP}$	–	–	17	A

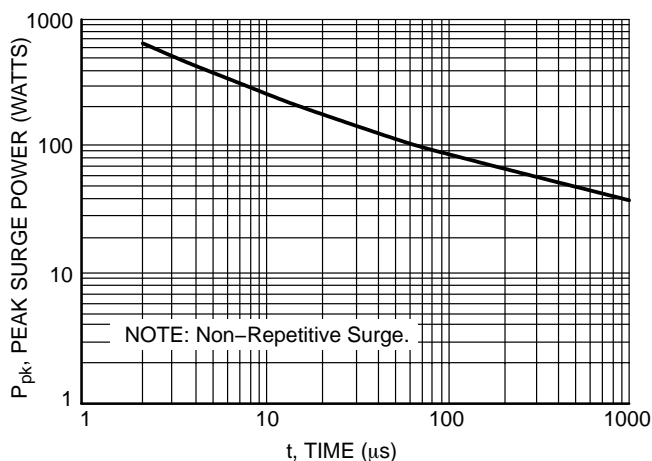


Figure 1. Pulse Width

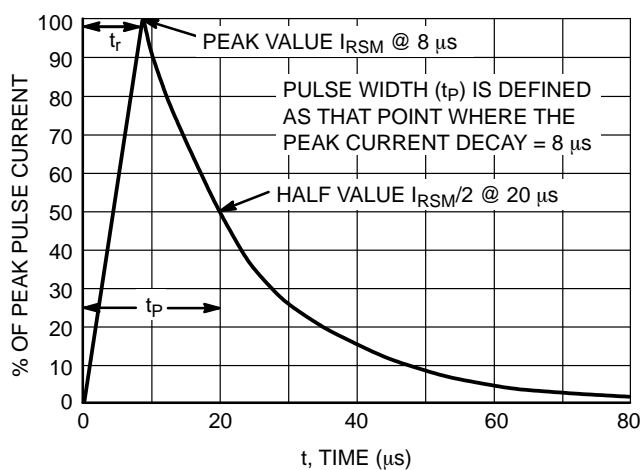
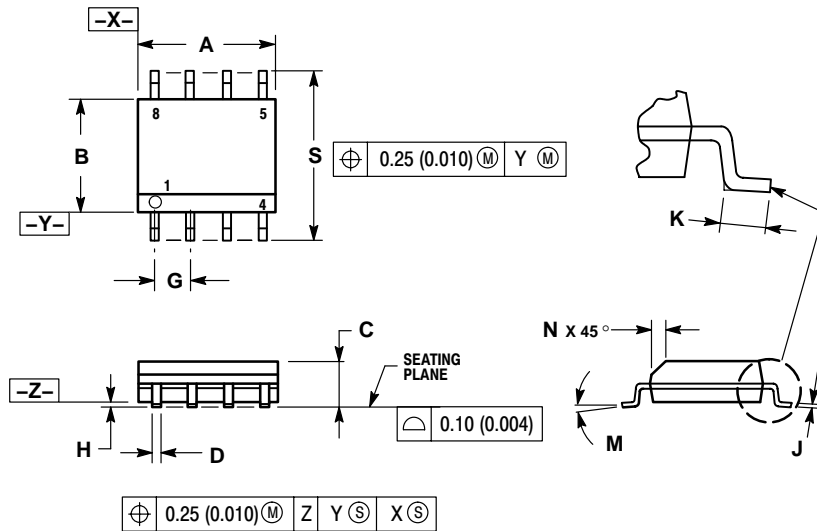


Figure 2.  $8 \times 20 \mu\text{s}$  Pulse Waveform

# SMDA05-6R2

## PACKAGE DIMENSIONS

SO-8  
CASE 751-07  
ISSUE AB

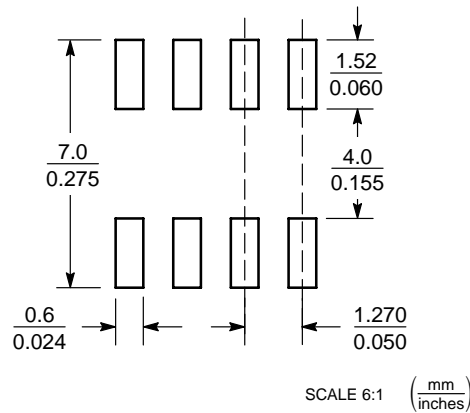


### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.
6. 751-01 THRU 751-06 ARE OBSOLETE. NEW STANDARD IS 751-07

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0°	8°	0°	8°
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

## SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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