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 lighting.

Features:

- SO–8 Package
- Peak Power – 400 Watts 8 x 20 μS
- 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 (lighting) 12 (8/20 μs)
- 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 μs @ T_A = 25°C (Note 1)	P_{pk}	400	W
Peak Pulse Current 8 x 20 μs @ T_A = 25°C (Note 1)	I_{PP}	17	A
Junction and Storage Temperature Range	T_J, T_{stg}	–55 to +150	°C
Lead Solder Temperature – Maximum 10 Seconds Duration	T_L	260	°C

1. Non–repetitive current pulse 8 x 20 μS exponential decay waveform

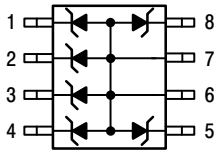
ON Semiconductor®

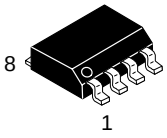
http://onsemi.com

SO–8
VOLTAGE SUPPRESSOR
300 WATTS PEAK POWER
6 VOLTS

PIN CONFIGURATION AND SCHEMATIC

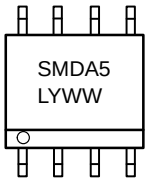
PINS 1–5: CATHODE
PINS 6–7: ANODE
PIN 8: CATHODE





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

ELECTRICAL CHARACTERISTICS

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

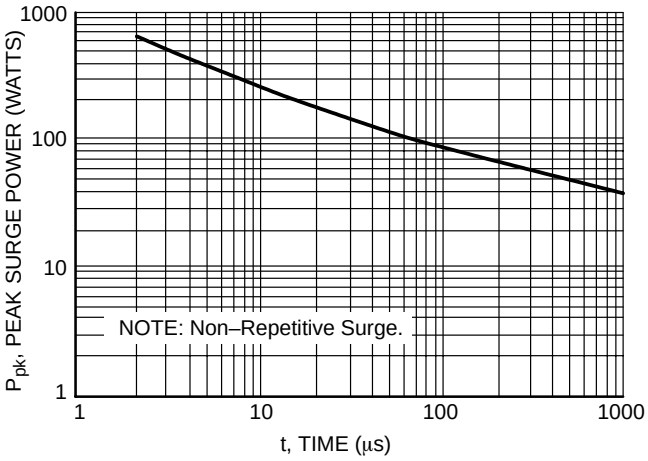


Figure 1. Pulse Width

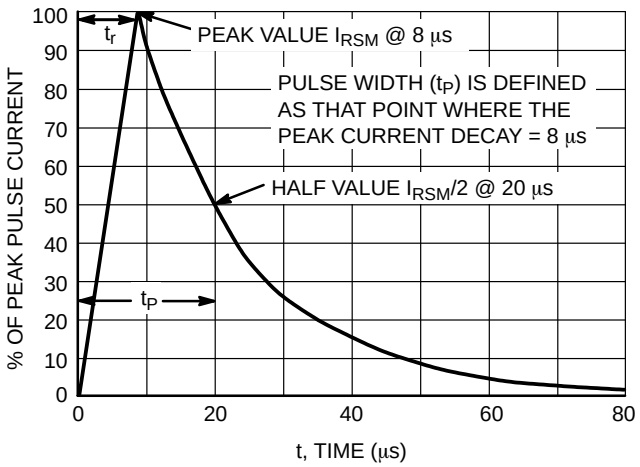
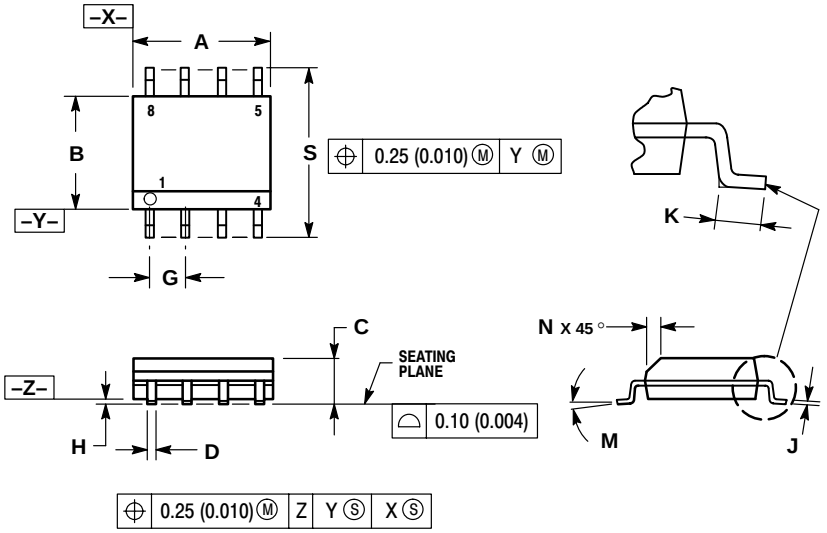


Figure 2. 8 × 20 μs Pulse Waveform

PACKAGE DIMENSIONS

SO–8
CASE 751–07
ISSUE AA



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 STANDAARD IS 751–07

	MILLIMETERS		INCHES	
DIM	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

PUBLICATION ORDERING INFORMATION

Literature Fulfillment:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303–675–2175 or 800–344–3860 Toll Free USA/Canada
Fax: 303–675–2176 or 800–344–3867 Toll Free USA/Canada
Email: ONlit@hibbertco.com

N. American Technical Support: 800–282–9855 Toll Free USA/Canada

JAPAN: ON Semiconductor, Japan Customer Focus Center
2–9–1 Kamimeguro, Meguro–ku, Tokyo, Japan 153–0051
Phone: 81–3–5773–3850
Email: r14525@onsemi.com

ON Semiconductor Website: http://onsemi.com

For additional information, please contact your local
Sales Representative.