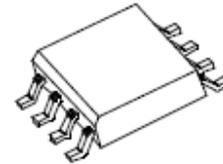


**TVS ARRAY SERIES**

**FEATURES**

- ✓ Protects 3.3, 5, 12, 15, 24 V Components
- ✓ Unidirectional
- ✓ Provides Electrically Isolated Protection
- ✓ 300 W @ 8/20  $\mu$ s
- ✓ Protects 4 Lines
- ✓ SO-8 Packaging
- ✓ This is a Pb - Free Device
- ✓ All SMC parts are traceable to the wafer lot
- ✓ Additional testing can be offered upon request

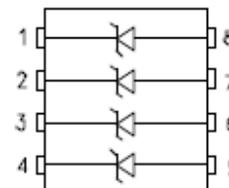
**SO-8**



**DESCRIPTION**

The SMDAXX series of TVS array have been designed to provide unidirectional protection for sensitive electronics from damage due to voltage transients caused by electrostatic discharge (ESD), electrical fast transients (EFT), lightning and other voltage-induced transient events. The device can be used to protect combinations of four unidirectional lines.

**SCHEMATIC & PIN CONFIGURATION**



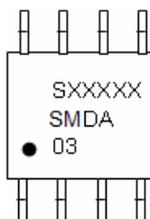
**APPLICATION**

- ✓ RS-232 Data Lines
- ✓ Microprocessor Based Equipment
- ✓ Notebooks, Desktops, & Servers
- ✓ LAN/WAN Equipment
- ✓ Serial and Parallel Port
- ✓ Peripherals

**MECHANICAL CHARACTERISTICS**

- ✓ SO-8 Surface Mount Package
- ✓ Approximate Weight: 0.1 grams
- ✓ PIN #1 Indicator: DOT on top of package
- ✓ Packaging: Tubes or Tape & Reel per EIA Standard 481

**MARKING DIAGRAM**



Where XXXXX is YYWWL

SMDA03 = Part Name  
S = S  
YY = Year  
WW = Week  
L = Lot Number

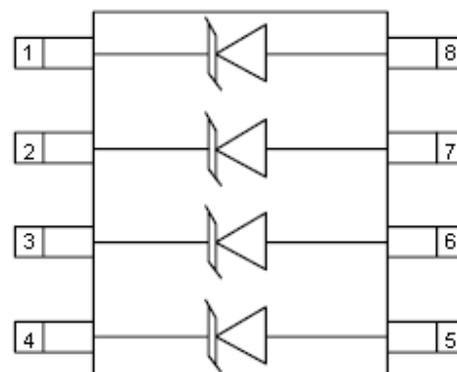
**Cautions:** Molding resin  
Epoxy resin UL:94V-0



## Circuit Diagram

The SMDAxx series of devices are designed to protect up to four data lines. The devices are connected as follows:

- ✓ The SMDAxx are unidirectional devices and are designed for use on line where the normal operating voltage is above ground. Pins 1, 2, 3, and 4 are connected to the protected lines. Pins 5, 6, 7, and 8 are connected to ground. The ground connections should be made directly to the ground plane for best results. The path length is kept as short as possible to reduce the effects of parasitic inductance in the board traces.



## Ordering Information:

Device	Package	Shipping
SMDA03 THRU SMDA24	SO-8 (Pb-Free)	2500pcs / reel

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

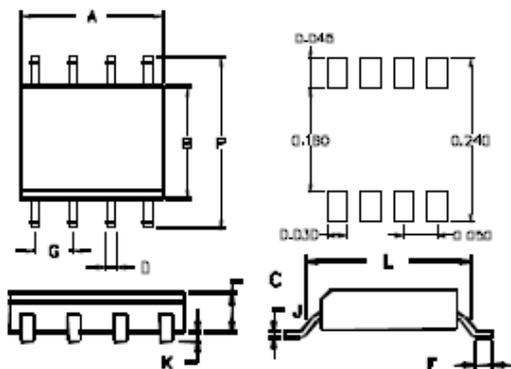
## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
P	Peak Pulse Power, 8/20 $\mu$ s Waveshape	300	W
T <sub>J</sub>	Operating Temperature	-55 to +125	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C
T <sub>L</sub>	Lead Soldering Temperature	260 (10 Sec.)	°C

**ELECTRICAL CHARACTERISTICS @ 25 °C**

Part Number	Stand-off Voltage $V_{vm}$ (v) Max	Breakdown Voltage $V_{BR}$ @1mA (V) Min	Clamping Voltage $V_c$ @ 1 A (V) Max	Leakage Current $I_R$ @ $V_{vm}$ ( $\mu$ A) Max	Capacitance (f = 1MHz) C @ 0V (pF) Max	Temperature Coefficient of $V_{BR}$ $a(V_{BR})$ mV/°C Max
SMDA03	3.3	4	7	200	800	-3
SMDA05	5.0	6	9.8	20	600	3
SMDA12	12.0	13.3	19	1	185	10
SMDA15	15.0	16.7	24	1	140	13
SMDA24	24.0	26.7	43	1	90	30

**PACKAGE OUTLINES & DIMENSIONS**



DIM	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	0.189	0.196	4.8	5.0
B	0.150	0.157	3.8	4.0
C	0.053	0.069	1.35	1.75
D	0.011	0.021	0.28	0.53
F	0.016	0.050	0.41	1.27
G	0.050 BSC		1.27 BSC	
J	0.006	0.010	0.15	0.25
K	0.004	0.008	0.10	0.20
L	0.189	0.206	4.80	5.23
P	0.228	0.244	5.79	6.19

**TYPICAL CHARACTERISTICS**

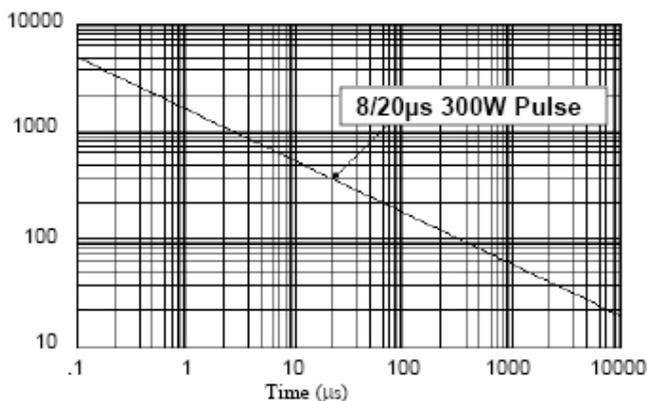


Figure 1. Peak Pulse Power Vs Pulse Time ( $\mu$ s)

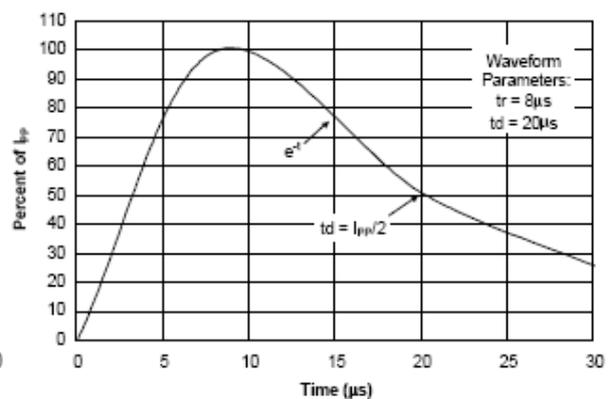


Figure 2. Pulse Wave Form



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