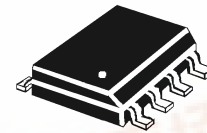




Micro Commercial Components  
21201 Itasca Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

## SMDA03C-5 THRU SMDA24C-5

TVSarray<sup>®</sup> Series



### DESCRIPTION (300 watt)

This TRANSIENT VOLTAGE SUPPRESSOR (TVS) array is packaged in a SO-8 configuration giving protection to 5 Bidirectional data or interface lines. It is designed for use in applications where protection is required at the board level from voltage transients caused by electrostatic discharge (ESD) as defined in IEC 1000-4-2, electrical fast transients (EFT) per IEC 1000-4-4 and effects of secondary lighting.

These TVS arrays have a peak power rating of 300 watts for an 8/20  $\mu$ sec pulse. This array is suitable for protection of sensitive circuitry consisting of TTL, CMOS DRAM's, SRAM's, HCMOS, HSIC microprocessors, and I/O transceivers. The SMDAXXC-5 product provides board level protection from static electricity and other induced voltage surges that can damage sensitive circuitry.

### FEATURES

- Protects up to 5 Bidirectional lines
- Surge protection Per IEC 1000-4-2, 1000-4-4
- SO-8 Packaging

### MECHANICAL

- Molded SO-8 Surface Mount
- Weight: 0.066 grams (approximate)
- Marking: Logo, device number, date code
- Pin #1 defined by DOT on top of package

### MAXIMUM RATINGS

- Operating Temperatures: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Peak Pulse Power: 300 Watts (8/20  $\mu$ sec, Figure 1)
- Pulse Repetition Rate: <.01%

### PACKAGING

- Tape & Reel EIA Standard 481-1-A
- 13 inch reel 2,500, pieces (OPTIONAL)
- Carrier tubes 95 pcs per (STANDARD)

### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless otherwise specified

| PART NUMBER | DEVICE MARKING | STAND OFF VOLTAGE $V_{WM}$ | BREAKDOWN VOLTAGE $V_{BR}$ @1 mA | CLAMPING VOLTAGE $V_C$ @ 1 Amp (FIGURE 2) | CLAMPING VOLTAGE $V_C$ @ 5 Amp (FIGURE 2) | LEAKAGE CURRENT $I_D$ @ $V_{WM}$ | CAPACITANCE (f=1 MHz) @0V C | TEMPERATURE COEFFICIENT OF $V_{BR}$ $\alpha_{VBR}$ mV/°C |
|-------------|----------------|----------------------------|----------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------|-----------------------------|----------------------------------------------------------|
|             |                | VOLTS                      | VOLTS                            | VOLTS                                     | VOLTS                                     | $\mu$ A                          | pF                          |                                                          |
|             |                |                            | MIN                              | MAX                                       | MAX                                       | MAX                              | TYP                         | MAX                                                      |
| SMDA03C-5   | SDL5           | 3.3                        | 4                                | 7                                         | 9                                         | 200                              | 300                         | -5                                                       |
| SMDA05C-5   | SDB5           | 5.0                        | 6.0                              | 9.8                                       | 11                                        | 40                               | 200                         | 3                                                        |
| SMDA12C-5   | SDD5           | 12.0                       | 13.3                             | 19.0                                      | 24                                        | 1                                | 75                          | 10                                                       |
| SMDA15C-5   | SDF5           | 15.0                       | 16.7                             | 24.0                                      | 30                                        | 1                                | 50                          | 13                                                       |
| SMDA24C-5   | SDH5           | 24.0                       | 26.7                             | 43.0                                      | 55                                        | 1                                | 35                          | 30                                                       |

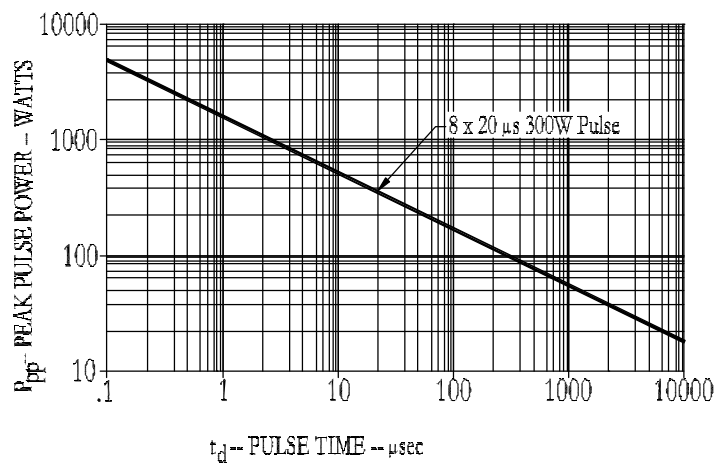
**NOTE:** TVS product is normally selected based on its stand off Voltage  $V_{WM}$ . Product selected voltage should be equal to or greater than the continuous peak operating voltage of the circuit to be protected.

**Application:** The SMDAXXC-5 product is designed for transient voltage suppression protection of ESD sensitive components at the board level. It is an ideal product to be used for protection of I/O Transceivers.

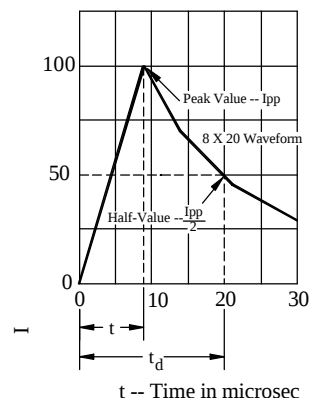
# SMDA03C-5 thru SMDA24C-5



## WAVE FORMS

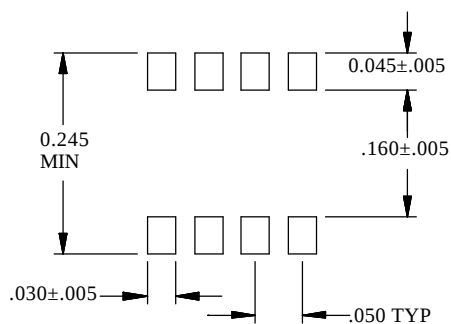


**FIGURE 1**  
Peak Pulse Power Vs Pulse Time

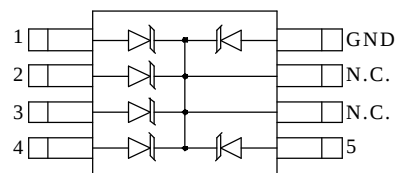


**FIGURE 2**  
Pulse Wave Form

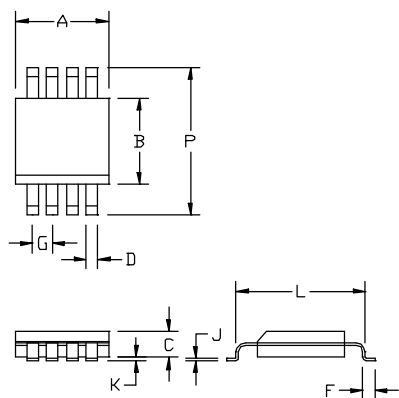
### MOUNTING PAD SO-8



### CIRCUIT DIAGRAM



### SO-8 PACKAGE



| DIM | INCHES    |       | MILLIMETERS |      |
|-----|-----------|-------|-------------|------|
|     | MIN       | MAX   | MIN         | MAX  |
| A   | 0.188     | 0.197 | 4.77        | 5.00 |
| B   | 0.150     | 0.158 | 3.81        | 4.01 |
| 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 |