

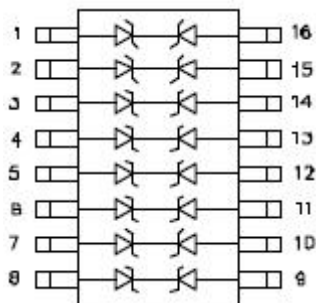
## S16C03-8 THRU S16C24-8 TVS ARRAY SERIES



### Description

The S16CXX-8 series of TVS array have been designed to provide bidirectional 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 8 bidirectional lines up to 24 volts.

### Schematic & Pin Configuration



### Features

- Protects 3.3, 5, 12, 15, 24 V Components
- Bidirectional
- Provides Electrically Isolated Protection
- 300 W @ 8/20  $\mu$ s
- Protects 8 Lines
- SO-16 Packaging
- "-A" is an AEC-Q101 qualified device
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Mechanical Characteristics

- SO-16 Surface Mount Package
- Approximate Weight: 0.13 grams
- PIN #1 Indicator: DOT on top of package
- Packaging: Tape and Reel Per EIA Standard 481

### Application

- RS-422, RS-423, & RS-485 Interfaces
- WAN/LAN Equipment
- Wireless Communication Circuits
- Ethernet-10/100 Base T

### Absolute Maximum Ratings:

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

## Electrical Characteristics@25°C

| Part Number | Stand-off Voltage<br>$V_{WM}$<br>(V)<br>Max | Breakdown Voltage<br>$V_{BR}$<br>@1mA<br>(V)<br>Min | Clamping Voltage<br>$V_C$<br>@ 1 A<br>(V)<br>Max | Leakage Current<br>$I_R$<br>@ $V_{WM}$<br>(uA)<br>Max | Capacitance<br>(f = 1MHz)<br>$C$<br>@ 0V<br>(pF)<br>Max | Temperature<br>Coefficient of<br>$V_{BR}$<br>$a(V_{BR})$<br>mv/°C<br>Max |
|-------------|---------------------------------------------|-----------------------------------------------------|--------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------|
| S16C03-8    | 3.3                                         | 4                                                   | 7                                                | 200                                                   | 425                                                     | -5                                                                       |
| S16C05-8    | 5.0                                         | 6                                                   | 9.8                                              | 40                                                    | 310                                                     | 1                                                                        |
| S16C12-8    | 12.0                                        | 13.3                                                | 19                                               | 1                                                     | 105                                                     | 8                                                                        |
| S16C15-8    | 15.0                                        | 16.7                                                | 24                                               | 1                                                     | 80                                                      | 11                                                                       |
| S16C24-8    | 24.0                                        | 26.7                                                | 43                                               | 1                                                     | 50                                                      | 28                                                                       |

## Ratings and Characteristics Curves

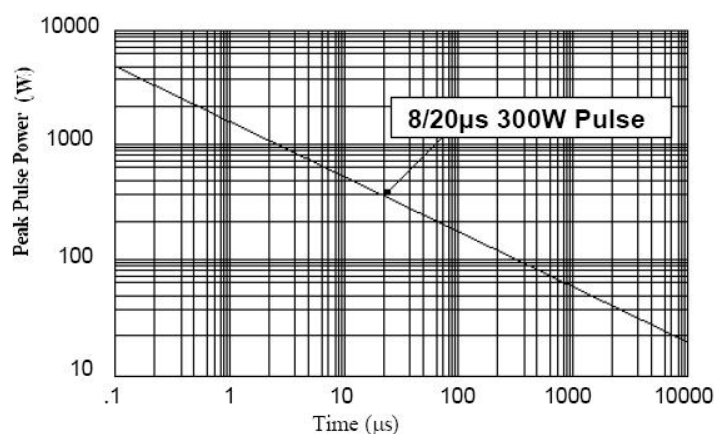


Figure 1. Peak Pulse Power Vs Pulse Time (μs)

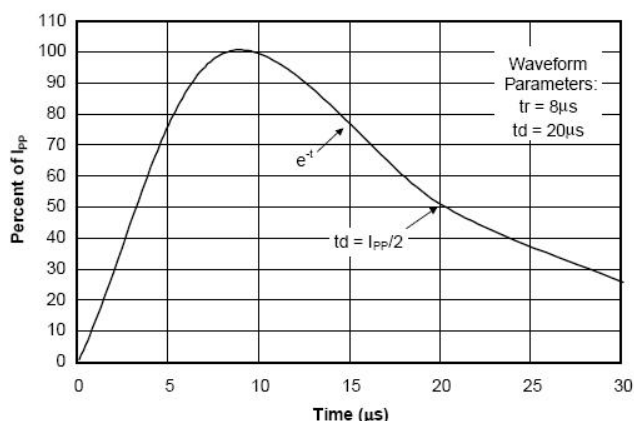


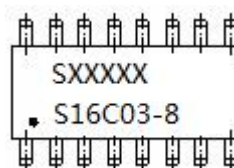
Figure 2. Pulse Wave Form

## Ordering Information

| Device                           | Package            | Shipping       |
|----------------------------------|--------------------|----------------|
| S16C03-8<br>THRU<br>S16C24-8     | SO-16<br>(Pb-Free) | 2500pcs / reel |
| S16C03-8TR<br>THRU<br>S16C24-8TR | SO-16<br>(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.

## Marking Diagram



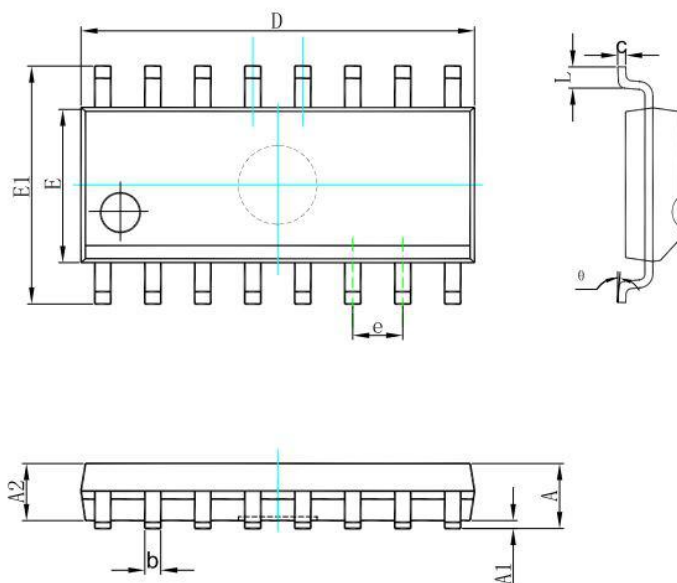
Where XXXXX is YYWWL

S16C03-8 = Part Name  
S = S  
YY = Year  
WW = Week  
L = Lot Number

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

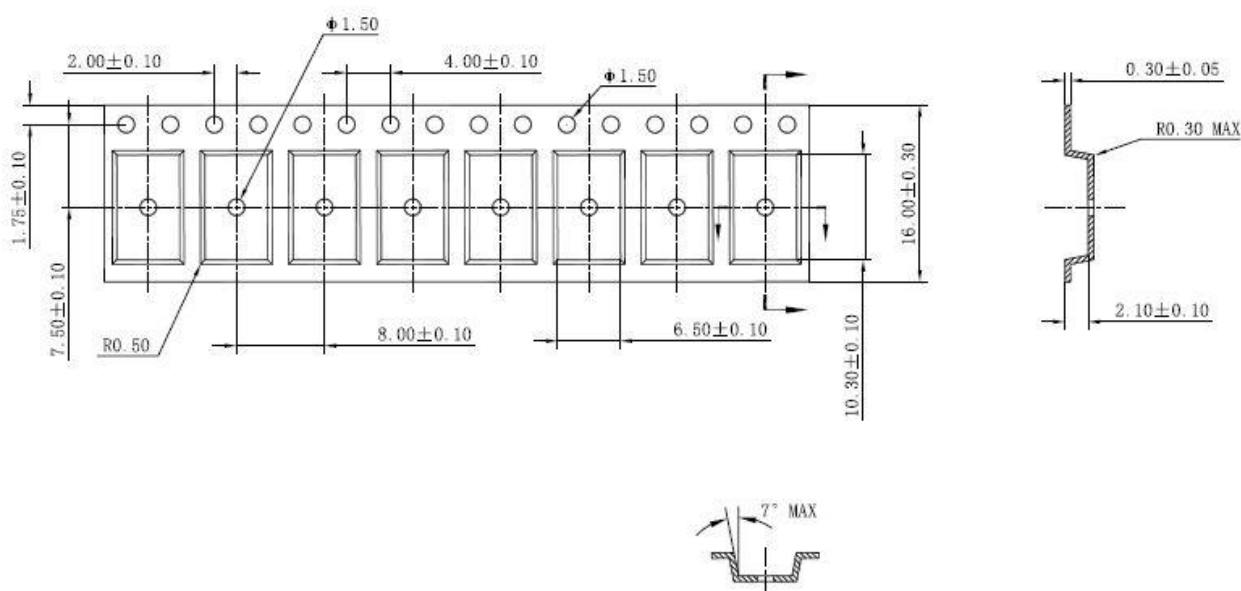
- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

## Mechanical Dimensions SO-16



| SYMBOL | Millimeters |        | Inches |       |
|--------|-------------|--------|--------|-------|
|        | MIN.        | MAX.   | MIN.   | MAX.  |
| A      | 1.350       | 1.800  | 0.053  | 0.708 |
| A1     | 0.050       | 0.250  | 0.002  | 0.010 |
| A2     | 1.350       | 1.650  | 0.053  | 0.065 |
| b      | 0.330       | 0.510  | 0.013  | 0.020 |
| c      | 0.153       | 0.250  | 0.006  | 0.010 |
| D      | 9.700       | 10.200 | 0.382  | 0.402 |
| E      | 3.800       | 4.150  | 0.150  | 0.163 |
| E1     | 5.700       | 6.300  | 0.224  | 0.248 |
| e      | 1.14        | 1.40   | 0.045  | 0.055 |
| L      | 0.400       | 1.270  | 0.016  | 0.050 |
| θ      | 0°          | 8°     | 0°     | 8°    |

## Carrier Tape Specification SO-16



**Technical Data**  
**Data Sheet N0289, Rev. B**



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