Elektronische Bauelemente

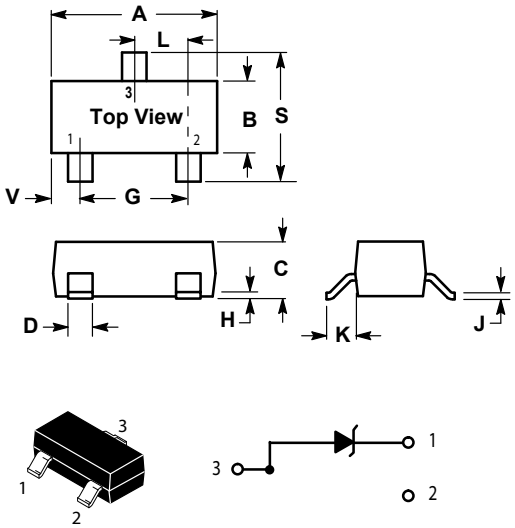
SMD03 THRU SMD36

300W TVS DIODE

RoHS Compliant Product

FEATURES

- SC59 package for surface mount appllcation
- Protects 3.3V up through 36V components
- Protects two unidirectional line or one bidirection line
- Provides electrically is olated protection
- ESD>10KV
- 300W Peak Power Protection(tp=8/2 us)



SC-59		
Dim	**Min**	**Max**
A	2.700	3.100
B	1.500	1.700
C	0.900	1.150
D	0.350	0.500
G	1.700	2.100
H	0.013	0.100
J	0.100	0.200
K	0.350	0.550
L	0.900	1.000
S	2.600	3.000
V	0.500	0.600
All Dimension in mm		

MECHANICAL DATA

- Molded: SC59 Surface Mount
- Body marked with marking code.
- Mounting Position: Any
- Weight: 0.008 grams (approx.)

APPLICATIONS

- Cellular Handsets and Accessories
- Portable Electronics
- Industrial Controls
- Set -Top Box
- Servers, Notebook, and Desktop PC

MAXIMUM RATING SAND ELECTRICAL CHARACTERISTICS

Rating	Symbol	Value	Units
Peak ulse Power (tp=8/20us)	P_{pk}	300	Watts
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	℃/W
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature	T_J	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless otherwise specified

PART NUMBER	DEVICE MARKING	STAND OFF VOLTAGE V_{WM} VOLTS	BREAKDOWN VOLTAGE V_{BR} @1 mA VOLTS	CLAMPING VOLTAGE V_C @ 1 Amp (FIGURE 2) VOLTS	CLAMPING VOLTAGE V_C @ 5 Amp (FIGURE 2) VOLTS	LEAKAGE CURRENT I_D @ V_{WM} µA	CAPACITANCE @0V, 1 MHz C Pin 1-3 pF
			MIN	MAX	MAX	MAX	MAX
SMD03	X03	3.3	4-5	7	8.5	100	350
SMD05	X05	5.0	6.1-7.4	9.8	11	12	210
SMD12	X12	12.0	13.3-16.3	19	24	0.5	75
SMD15	X15	15.0	16.7-20.4	24	30	0.5	50
SMD24	X24	24.0	26.7-32.6	43	55	0.5	30
SMD36	X36	36.0	40.0-47.0	60	75	0.5	30

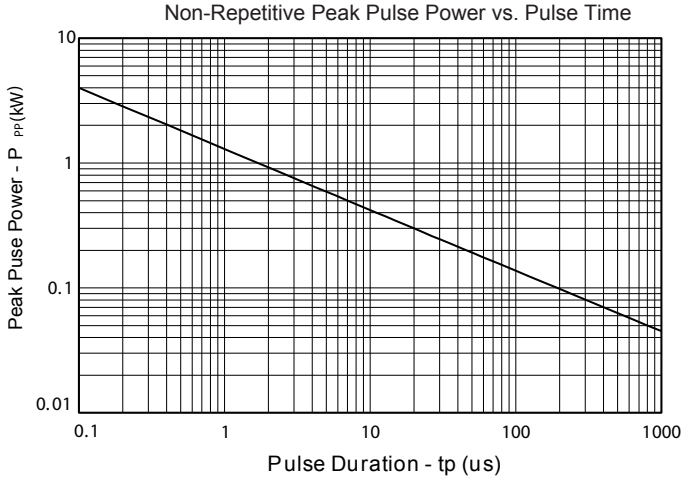
NOTE: Transient Voltage Suppression (TVS) product is normally selected based on its stand off Voltage V_{WM}. Product selected voltage should be equal to or greater than the continuous peak operating voltage of the circuit to be protected.

Elektronische Bauelemente

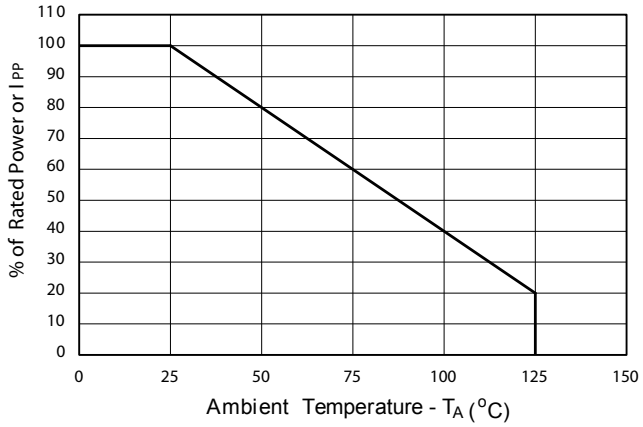
SMD03 THRU SMD36

300W TVS DIODE

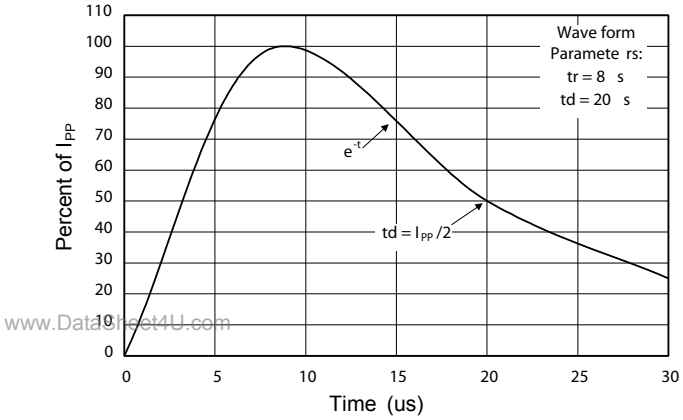
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Pulse Waveform



Applications Information

Device Connection Options

The SM series is designed to protect one unidirectional data or I/O lines operating at 5 to 36 volts.Connection options are as follows:

- Unidirectional:Data lines are connected to pin1 and Pin 3 is connected to ground.For best results,this pin should be connected directly to a ground plane on the board.The path lengh should be kept as short as possible to minimize parasitic inductance.

Circuit Board Layout Recommendations for suppression of ESD.

Good circuit board layout is critical for the suppression of fast rise-time transients such as ESD.The following guidelines are recommended (Refer to application note SI99.01 for more detailed information):

- Place the TVS near the input terminals or connectors to restrict transient coupling.
- Minimize the path length between the TVS and the protected line.
- Minimize all conductive loops including power and ground loops.
- The ESD transient return path toground should be kept as short as possible.
- Never run critical signals near board edges
- Use ground planes whenever possib|e.