Elektronische Bauelemente

SZMD03C

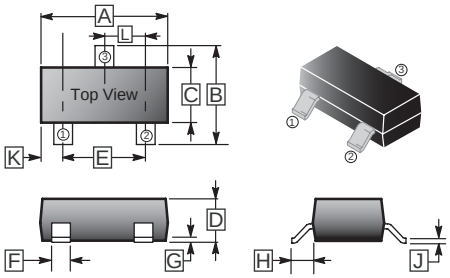
24W, 3 V
Transient Voltage Suppressors
for ESD Protection (Uni-directional)

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

SOT-23

FEATURES

- SOT-23 package for surface mount application
- Protects 5V components
- Protects two unidirectional line or one bi-direction line
- Provides electrically is olated protection



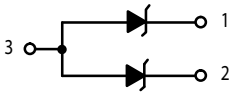
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.80	3.00	G	0.10 REF.	
B	2.25	2.55	H	0.55 REF.	
C	1.20	1.40	J	0.08	0.15
D	0.90	1.15	K	0.5 REF.	
E	1.80	2.00	L	0.95 TYP.	
F	0.30	0.50			

APPLICATIONS

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

Marking Code

KD9



ABSOLUTE RATINGS (Tamb = 25°C)

Rating		Symbol	Value	Units
IEC 61000-4-2 (ESD)	Air contact Contact discharge		±15 ±8	kV kV
ESD voltage	Per human body model		16	kV
Total power dissipation on FR-5 Board (Note 1) @ T_A=25℃		P_D	150	m/W
Junction and storage temperature range		T_J, T_{STG}	-55 ~ +150	°C
Lead solder temperature – maximum (10 Second duration)		T_L	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.
1. FR-5 = 1.0*0.75*0.62 in.

ELECTRICAL CHARACTERISTICS

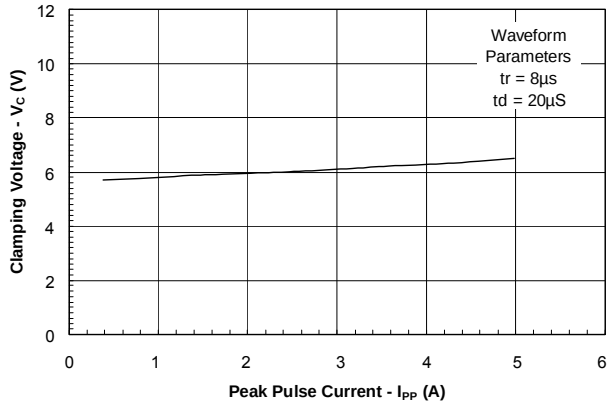
(Ratings at 25°C ambient temperature unless otherwise specified. V_F = 0.9V at I_F = 10mA)

Device	V_{RWM} (V)	I_R(uA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)	I_T (mA)	V_C (V) @ Max I_{PP} (Note 3)	I_{PP} (A) (Note 3)	P_{PK} (W)*	C (pF) (Note 4)
	Max	Max	Min	mA	Max	Max	Max	Typ
SZMD03C	3	5.0	5.2	5.0	8.0	3.0	24	190

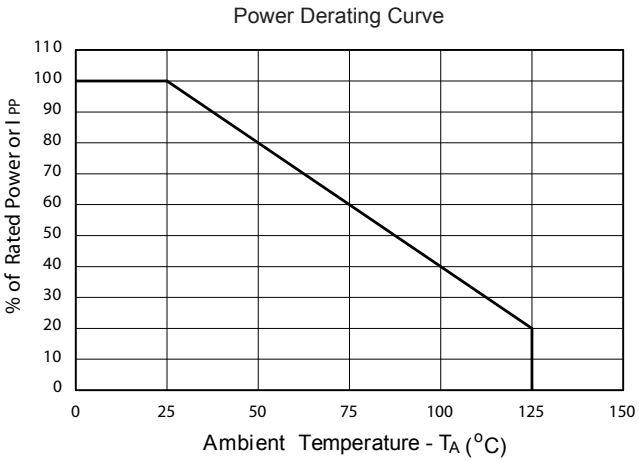
Other voltages available upon request.
2. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25℃
3. Surge current waveform per Figure 3.
4. Measured at 1MHz 0V.

RATINGS AND CHARACTERISTICS CURVES

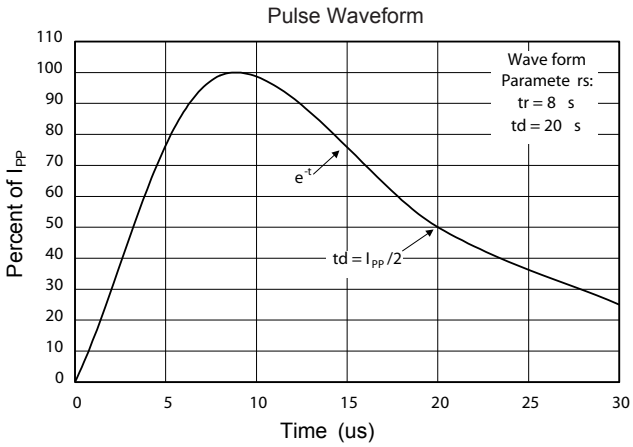
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



Pulse Waveform



Applications Information

Device Connection Options

The SZMD series is designed to protect one bi-directional or two uni-directional data or I/O lines operating at 3 volts.Connection options are as follows:

• Bidirectional:Pin 1 is connected to the data line and pin 2 is connected to ground (Since the device lls symmetrical,these conmtions may be re- Ver3ed).For best results,the ground connection should be made directly to a ground plane on the board.The path length should be kept as short as possible to minimize parasitic inductance-Pin 3 is not connected. • Unidirectional:Data lines are connected to pin1 and pin2.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 suppres- sion 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 Sl99.01 for more detailed information): • Place the TVS near the input terminals or connec- tors 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.