SMxxC Series

Bidirectional TVS Diode Array

DESCRIPTION

The SMxxC Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

This series has been specifically designed to protect sensitive components which are connected to power、data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

FEATURES

✧IEC61000-4-2 (ESD) ±30kV (Contact)
±30kV (Air)
✧IEC61000-4-4 (EFT) 40A (5/50ηs)
✧350 Watts Peak Pulse Power per (tp=8/20μs)
✧Protects two bidirectional lines
✧Low clamping voltage
✧Working voltages: 3.3V to 36V
✧Low leakage current

MACHANICAL DATA

✧SOT-23 package
✧Flammability Rating: UL 94V-0
✧Packaging: Tape and Reel
✧High temperature soldering guaranteed: 260℃/10s
✧Reel size: 7 inch
✧MSL 1

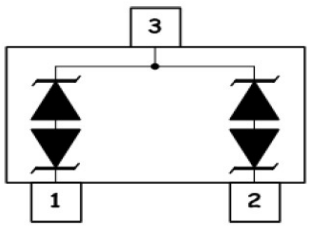
ORDERING INFORMATION

✧Device: SMxxC
✧Package: SOT-23
✧Material: Halogen free and RoHS compliant
✧Packing: Tape & Reel
✧Quantity per reel: 3,000pcs

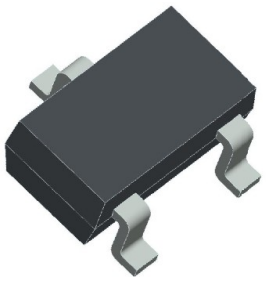
APPLICATIONS

✧Cell Phone Handsets and Accessories
✧Microprocessor based equipment
✧Personal Digital Assistants (PDA's)
✧Notebooks, Desktops, and Servers
✧Portable Instrumentation
✧Networking and Telecom
✧Serial and Parallel Ports.
✧Peripherals

PIN CONFIGURATION



PACKAGE OUTLINE



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ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±30 ±30	kV
P_{PP}	Peak Pulse Power (8/20μs)	350	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C)

PART NUMBER	DEVICE MARKING	V_{RWM} (V) (max.)	V_B (V) (min.)	I_T (mA)	V_C@1A (V) (max.)	V_C (V) (max.)	(@A)	I_R (μA) (max.)	C_J (pF) (max.)
SM03C	C03	3.3	4.0	1	7.5	16.0	20	40	450
SM05C	C05	5.0	6.0	1	9.8	18.0	17	10	200
SM08C	C08	8.0	8.5	1	13.4	24.0	15	2	120
SM12C	C12	12.0	13.3	1	19.0	32.0	11	1	75
SM15C	C15	15.0	16.7	1	24.0	38.0	10	1	68
SM18C	C18	18.0	20.0	1	29.0	45.0	9	1	57
SM20C	C20	20.0	22.3	1	35.0	50.0	8	1	52
SM24C	C24	24.0	26.7	1	43.0	52.0	7	1	50
SM36C	C36	36.0	40.0	1	60.0	75.0	4.5	1	35

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20μs Waveform per IEC61000-4-5

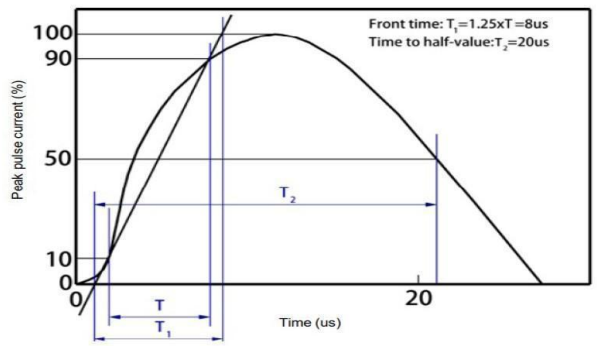


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

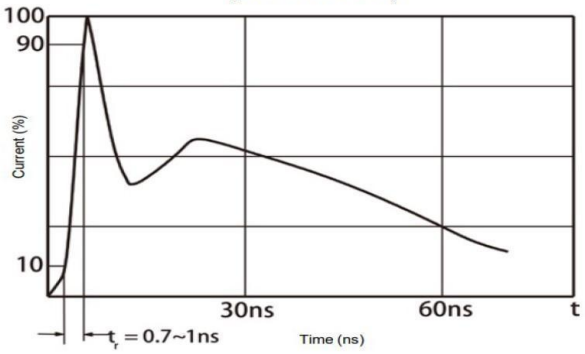


Fig 3 Voltage vs Capacitance

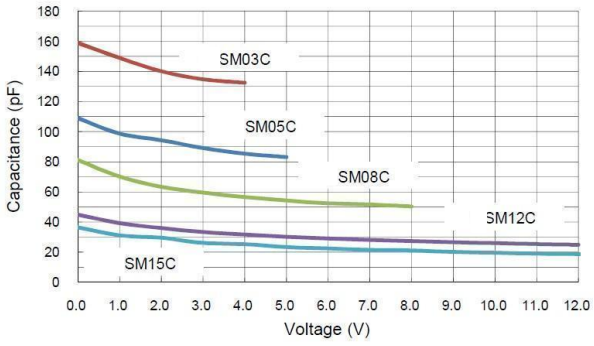


Fig 4 Voltage vs Capacitance

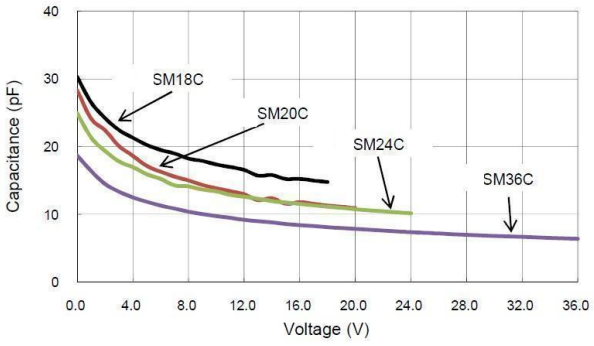


Fig 5 Clamping Voltage vs Peak Pulse Current

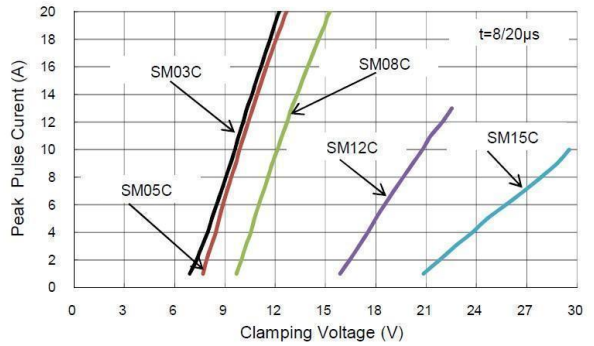
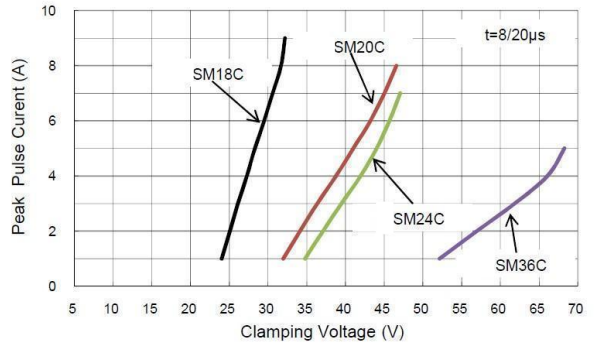
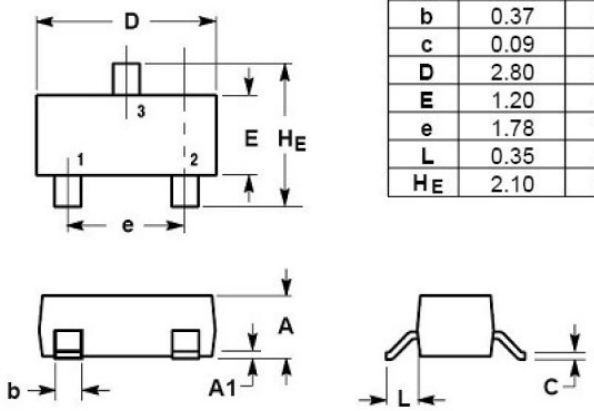


Fig 6 Clamping Voltage vs Peak Pulse Current



SOT-23 PACKAGE OUTLINE DIMENSIONS



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104