



SM03C THUR SM36C

Bidirectional TVS Diode Array

Description

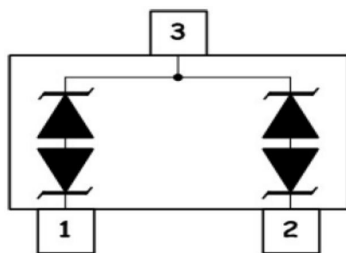
The SMxxC Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal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

Ordering Information

- Device:SMxxC
- Package:SOT-23
- Material:Halogen free and RoHS compliant
- Packing:Tape & Reel
- Quantity per reel:3000pcs

Pin Configuration



Features

- IEC61000-4-2(ESD) $\pm 30\text{kV}(\text{air})$
 $\pm 30\text{kV}(\text{contact})$
- IEC61000-4-4(EFT) 40A (5/50ns)
- 350W Peak Pulse Power per (tp=8/20 μs)
- Protects two Bidirectional lines
- Low clamping voltage
- Working voltage: 3.3V to 36V
- Low leakage current

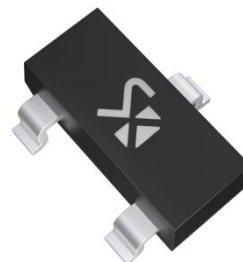
Mechanical Data

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

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

Package Outline





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Absolute Maximum Rating

Parameter	Symbol	Value	Units
ESD per IEC 61000-4-2(Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2(Contact)		± 30	
Peak Pulse Power(8/20 μ s)	P_{PP}	450	W
Operating Temperature	T_{OPT}	-55~+150	°C
Storage Temperature	T_{STG}	-55~+150	°C
Lead Soldering Temperature	T_L	260(10 sec.)	°C

Electrical Characteristics ($T_A=25^{\circ}\text{C}$)

Part Number	Device Marking	V_{RWM} (V) (max.)	V_{BR} (V) (min.)	I_T (mA)	$V_{C@1A}$ (V) (max.)	V_C (V) (max.) (@A)		I_R (μ A) (max.)	C_J (pF) (max.)
SM03C	C03	3.3	4.0	1	7.5	16.0	25	40	200
SM05C	C05	5.0	6.0	1	9.8	18.0	24	10	100
SM08C	C08	8.0	8.5	1	13.4	24.0	20	2	90
SM12C	C12	12.0	13.3	1	19.0	32.0	17	1	50
SM15C	C15	15.0	16.7	1	24.0	38.0	13	1	40
SM18C	C18	18.0	20.0	1	29.0	45.0	10	1	35
SM20C	C20	20.0	22.3	1	35.0	50.0	9	1	30
SM24C	C24	24.0	26.7	1	43.0	52.0	9	1	25
SM36C	C36	36.0	40.0	1	60.0	75.0	6	1	20



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Electrical Characteristics Curve

Fig1. 8/20 μ s Pulse Waveform

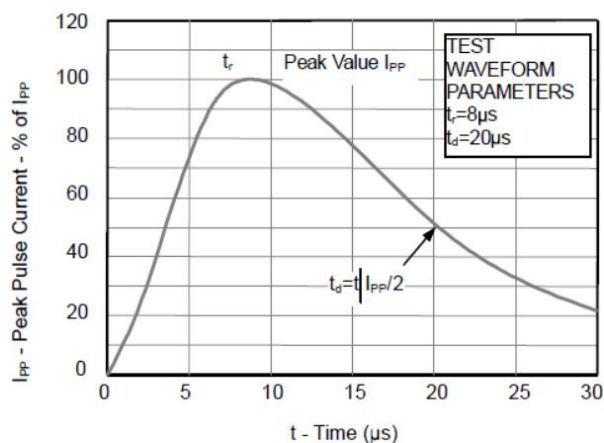


Fig2. Contact Discharge Current Waveform (IEC 61000-4-2)

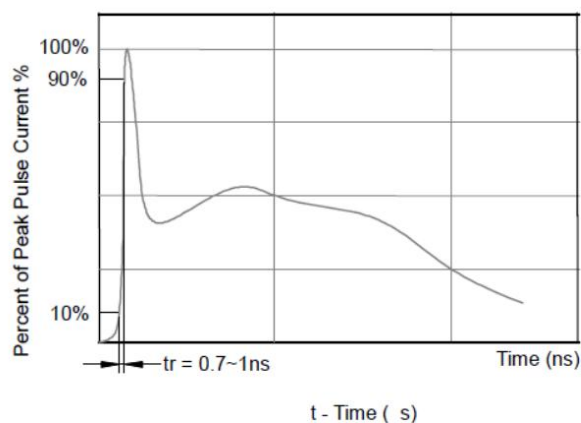


Fig3 Voltage vs Capacitance

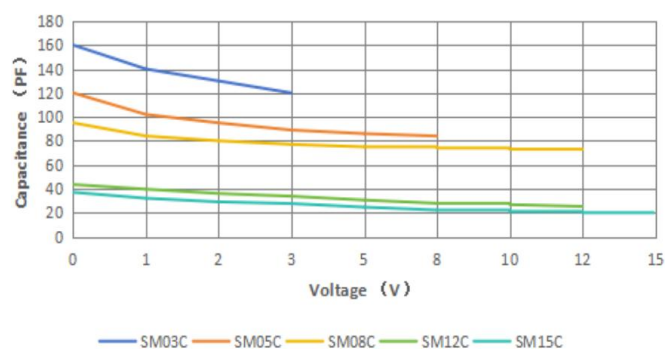


Fig4 Voltage vs Capacitance

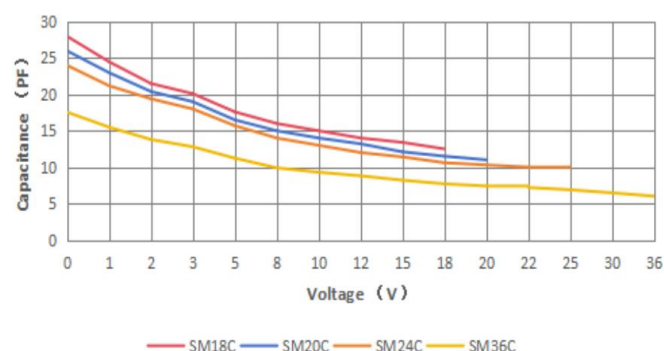


Fig5 Clamping Voltage vs Peak Pulse Current

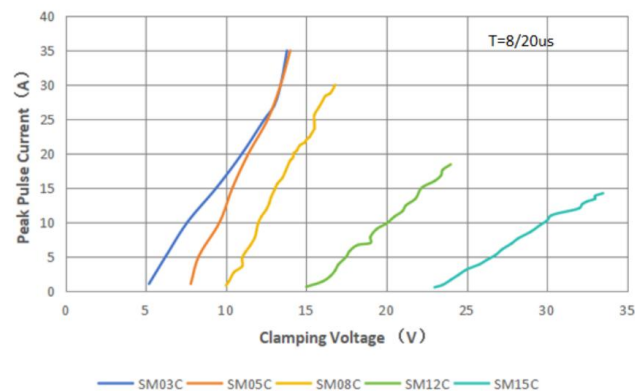
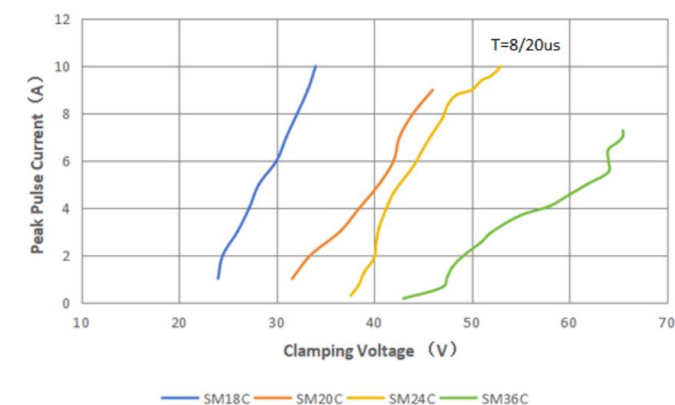


Fig6 Clamping Voltage vs Peak Pulse Current



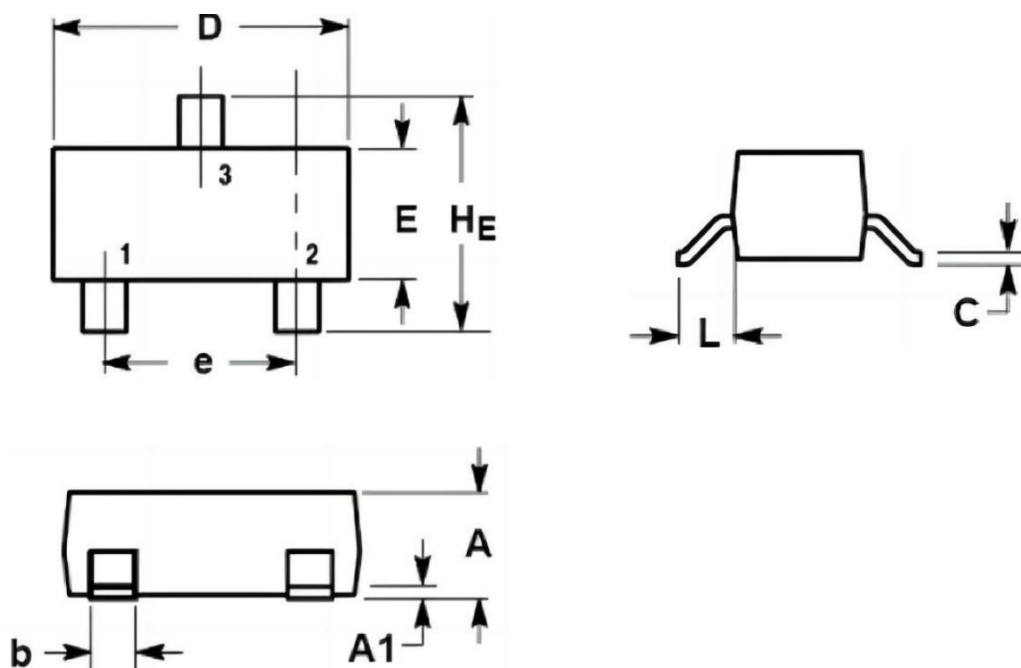


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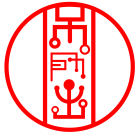
Package Information

SOT-23

Dimensions in mm



Symbol	Dimensions In Millimeters			Dimensions In 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



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