

SM05OC THRU SM24OC

Bidirectional TVS Diode Array

DESCRIPTION

The SMxxOC 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).

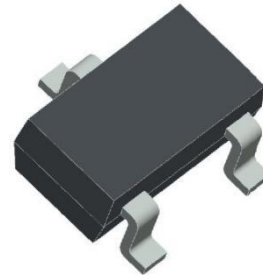
FEATURES

- ✧ IEC61000-4-2 (ESD) $\pm 8\text{kV}$ (Contact), $\pm 15\text{kV}$ (Air)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ Protects two bidirectional lines
- ✧ Low clamping voltage
- ✧ Working voltages : 5.0V, 12V
- ✧ Low leakage current

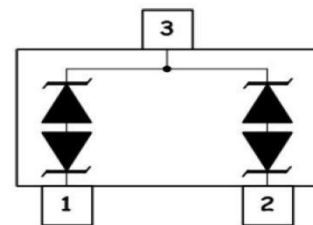
APPLICATIONS

- ✧ 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.
- ✧ Quick charger

PACKAGE OUTLINE



PIN CONFIGURATION

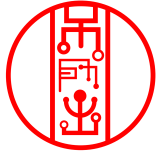


ORDERING INFORMATION

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

MACHANICAL DAT

- ✧ 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



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ABSOLUTE MAXIMUM RATING			
Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact)	± 20	kV
	ESD per IEC 61000-4-2 (Air)	± 30	
P_{PP}	Peak Pulse Power (8/20 μ s)	130	W
T_{OPT}	Operating Temperature	-55/+150	$^{\circ}$ C
T_{STG}	Storage Temperature	-55/+150	$^{\circ}$ C

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}$ C)									
PART NUMBER	DEVICE MARKING	V_{RWM}	V_B	I_T	$V_C@1A$	V_C		I_R	C_J
		(V) (max.)	(V) (min.)	(mA)	(V) (max.)	(max.)	(@A)	(μ A) (max.)	(pF) (max.)
SM05OC	CO05	5.0	5.6	1	8.5	16.0	8	1	15
SM12OC	CO12	12.0	13.3	1	19.0	26.0	5	0.2	15
SM15OC	CO15	15.0	16.7	1	24	32.0	4	0.1	13
SM24OC	CO24	24.0	26.7	1	43	48.0	3	0.1	10



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ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 μ s Waveform per IEC61000-4-5

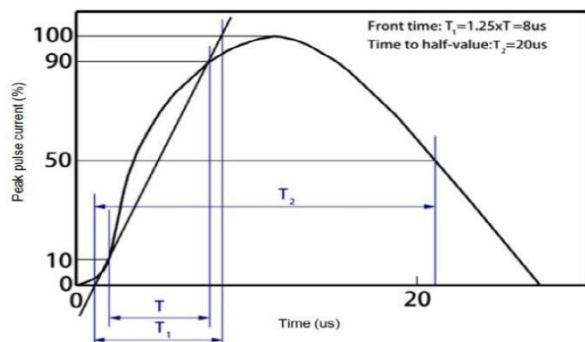


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

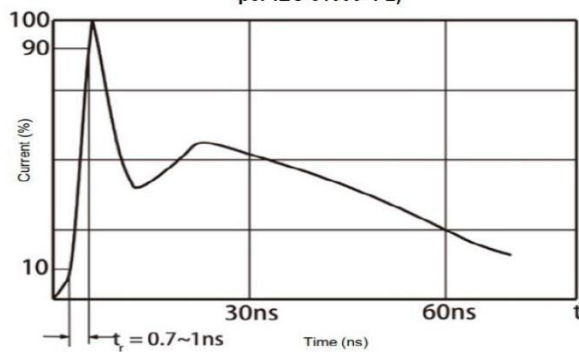


Fig 3 Voltage vs Capacitance

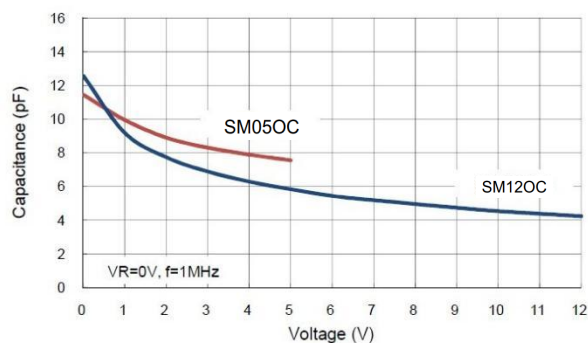
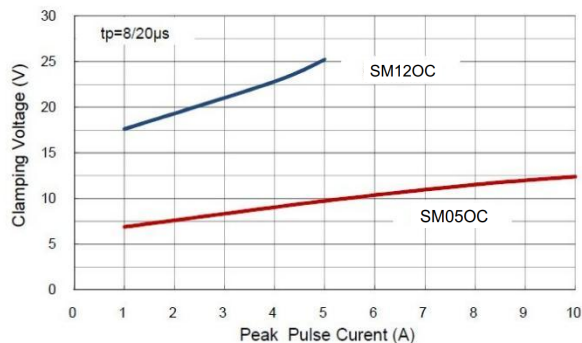
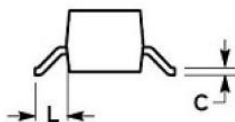
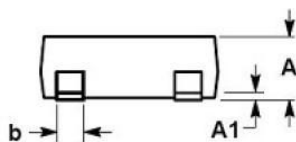
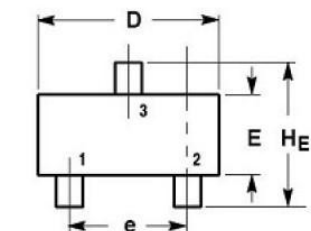


Fig 4 Peak Pulse Current vs Clamping Voltage



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