

DESCRIPTION

The SM12C 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

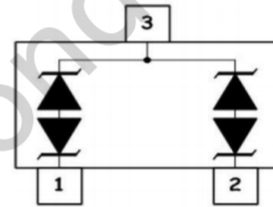
- ◆ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (Contact)
 $\pm 30\text{kV}$ (Air)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ 350 Watts Peak Pulse Power per (tp=8/20μs)
- ◆ Protects two bidirectional lines
- ◆ Low clamping voltage
- ◆ Working voltages: 3.3V to 36V
- ◆ Low leakage current

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



PIN CONFIGURATION

MACHANICAL 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

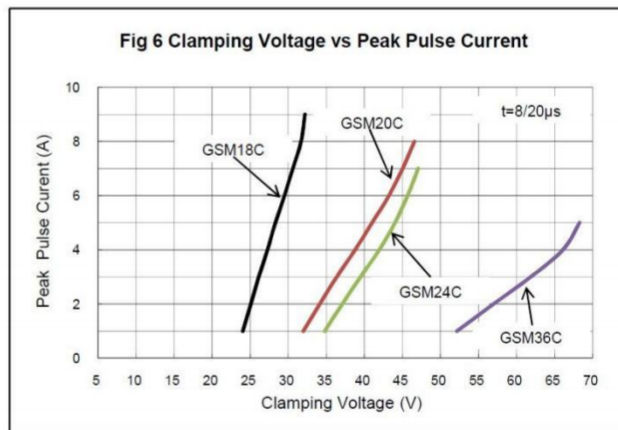
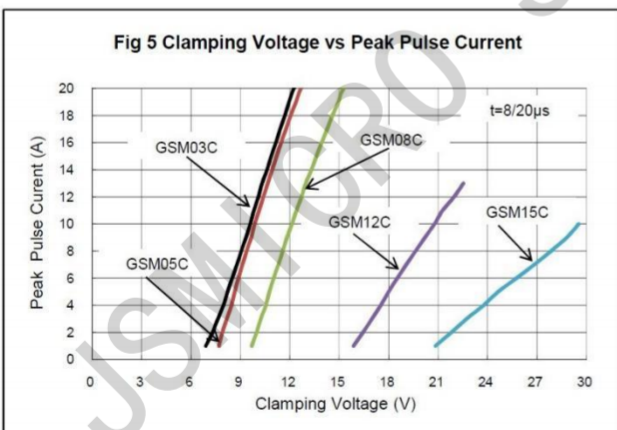
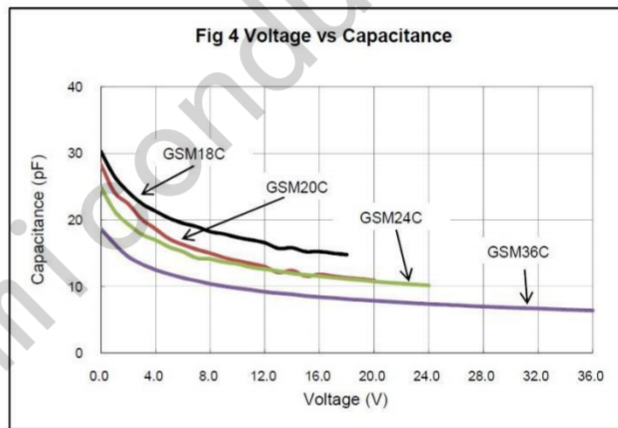
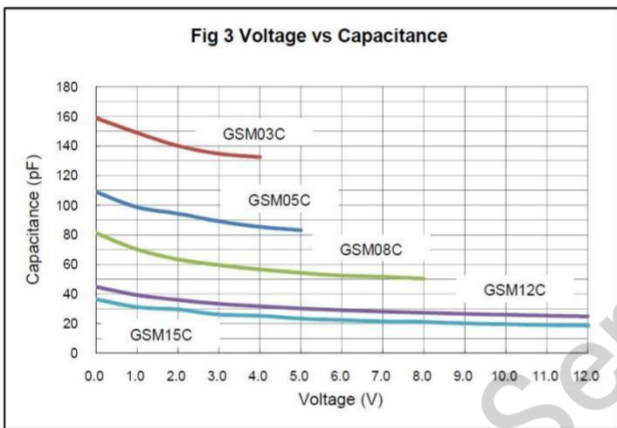
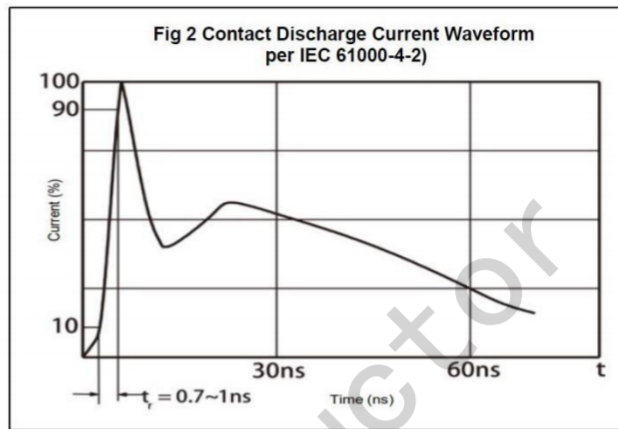
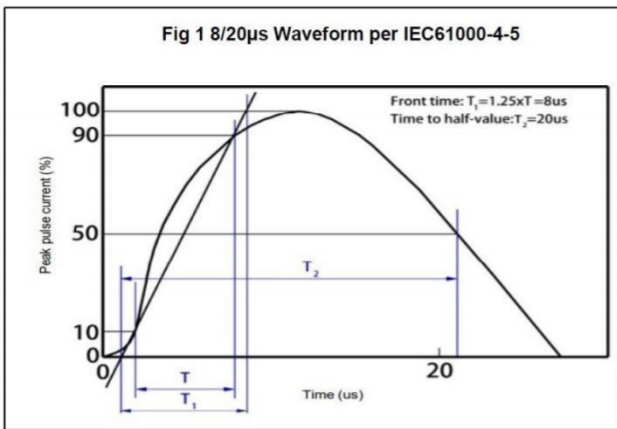
ABSOLUTE MAXIMUM RATING

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

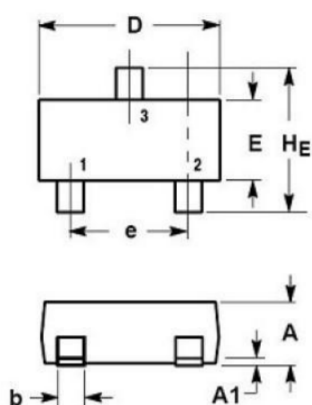
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}$ C)

PART NUMBER	V_{RWM} (V) (max.)	V_B (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	3.3	4.0	1	7.5	16.0	20	40	450
SM05C	5.0	6.0	1	9.8	18.0	17	10	200
SM08C	8.0	8.5	1	13.4	24.0	15	2	120
SM12C	12.0	13.3	1	19.0	32.0	11	1	75
SM15C	15.0	16.7	1	24.0	38.0	10	1	68
SM18C	18.0	20.0	1	29.0	45.0	9	1	57
SM20C	20.0	22.3	1	35.0	50.0	8	1	52
SM24C	24.0	26.7	1	43.0	52.0	7	1	50
SM36C	36.0	40.0	1	60.0	75.0	4.5	1	35

ELECTRICAL CHARACTERISTICS CURVE



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

