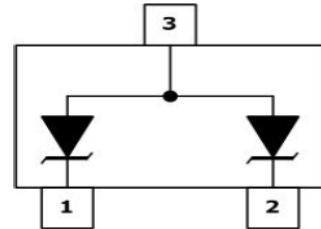


## DESCRIPTION

The SMxx 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)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- 350 Watts Peak Pulse Power per (tp=8/20 $\mu$ s)
- Protects one bidirectional line or two unidirectional 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 °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

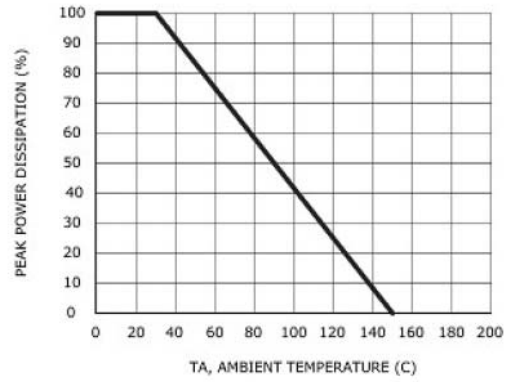
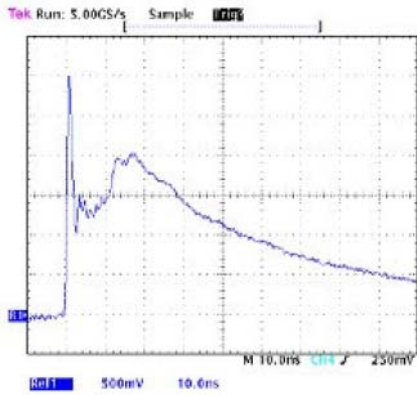
**ABSOLUTE MAXIMUM RATING**

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Air)	$\pm 15$	kV
	ESD per IEC 61000-4-2 (Contact)	$\pm 8$	
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ 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 ( $T_{amb}=25$ )**

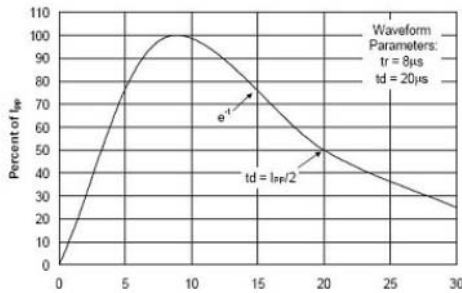
PART NUMBER	DEVICE MARKING	$V_{RWM}$ (V) (max.)	$V_B$ (V) (min.)	$I_T$ (mA)	$V_{C@1A}$ (V) (max.)	$V_C$ (V) (max.) (@A)		$I_R$ ( $\mu$ A) (max.)	$C_J$ (pF) (max.)
UMW SM03	M03	3.3	4	1	7.0	14	20	40	450
UMW SM05	M05	5	6	1	9.8	18	17	10	300
UMW SM08	M08	8	8.5	1	13.4	24	15	2	240
UMW SM12	M12	12	13.3	1	19	32	11	1	130
UMW SM15	M15	15	16.7	1	24	38	10	1	120
UMW SM18	M18	18	20	1	29	45	9	1	100
UMW SM20	M20	20	22.3	1	35	50	8	1	90
UMW SM24	M24	24	26.7	1	43	52	7	1	80
UMW SM36	M36	36	40	1	60	75	5	1	60

**ELECTRICAL CHARACTERISTICS CURVE**

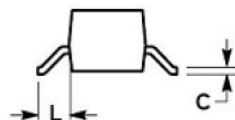
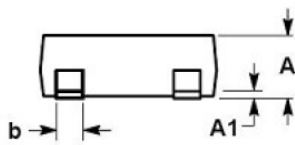
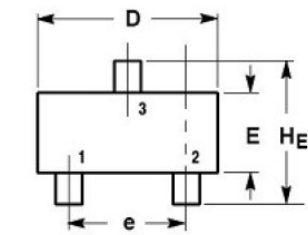


Power Derating Curve

Pulse Waveform



**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

**Ordering information**

Order code	Package	Base qty	Delivery mode
UMW SMxx	SOT-23	3000	Tape and reel