UMW SMxxC

1.Description

The SMxxC Series is designed for applications requiring transient overvoltage protectioncapability. 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.

2.Features

- 350 Watts Peak Pulse Power per (8/20μs)
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Protects tw o bidirectional line
- Low clamping voltage
- Low leakage current
- Working voltages : 3V, 5V, 8V, 12V, 15V, 18V, 20V, 24V, 36V

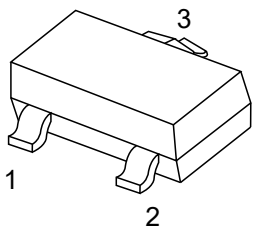
3.Applications

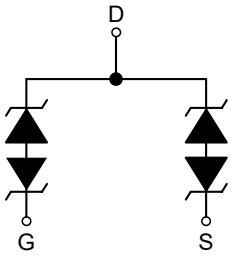
- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports.
- Peripherals

4.Pinning information

Pin	Symbol	Description
1	G	GATE
2	S	SOURCE
3	D	DRAIN

SOT-23





5.Absolute Maximum Ratings

Parameter	Symbol	Value	Units
ESD per IEC 61000-4-2 (Air)	V_{ESD}	±15	kV
ESD per IEC 61000-4-2 (Contact)		±8	kV
Peak Pulse Power(t_p=8/20us waveform)	P_{PP}	350	W
Junction Temperature	T_{OPT}	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260 (10 sec.)	°C

Notes: The above data are for reference only.

6.Electrical Characteristics(T_A=25°C)

PART NUMBER	V_{RWM}	V_B	I_T	V_C@1A	V_C		I_R	C_T
	(V)	(V)	(mA)	(V)	(V)		(μA)	(pF)
	(max.)	(min.)		(max.)	(max.)	(@A)	(max.)	(max.)
SM03C	3.3	4	1	7.5	16	20	40	450
SM05C	5	6	1	9.8	18	17	10	200
SM08C	8	8.5	1	13.4	24	15	2	120
SM12C	12	13.3	1	19	32	11	1	75
SM15C	15	16.7	1	24	38	10	1	68
SM18C	18	20.0	1	29	45	9	1	57
SM20C	20	22.3	1	35	50	8	1	52
SM24C	24	26.7	1	43	52	7	1	50
SM36C	36	40	1	60	75	4.5	1	35

7.Typical characteristic

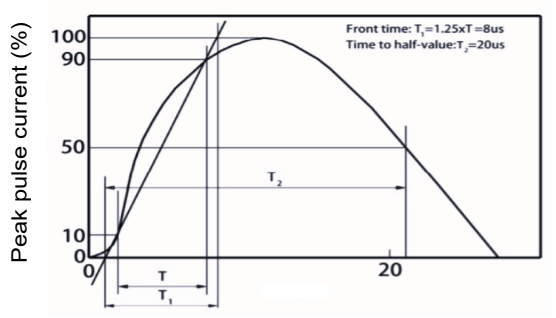


Figure 1: 8/20μs Waveform per IEC61000-4-5

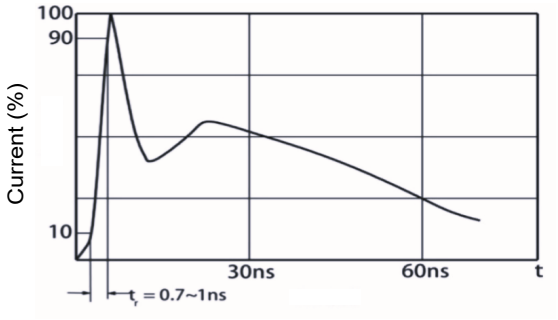


Figure 2: Contact Discharge Current Waveform per IEC 61000-4-2)

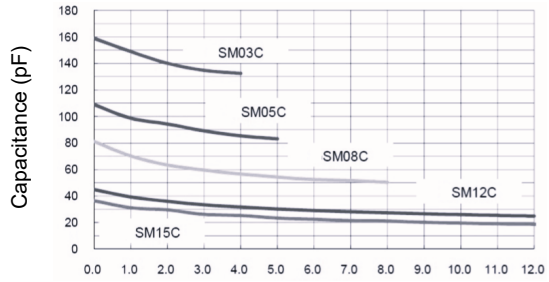


Figure 3: Voltage vs Capacitance

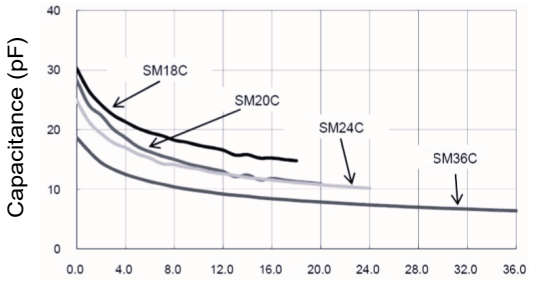


Figure 4: Voltage vs Capacitance

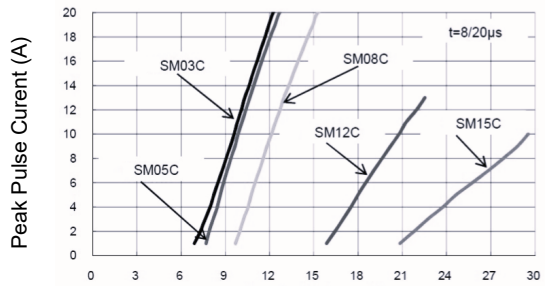


Figure 5: Clamping Voltage vs Peak Pulse Current

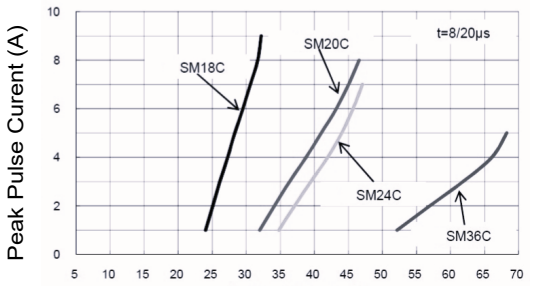
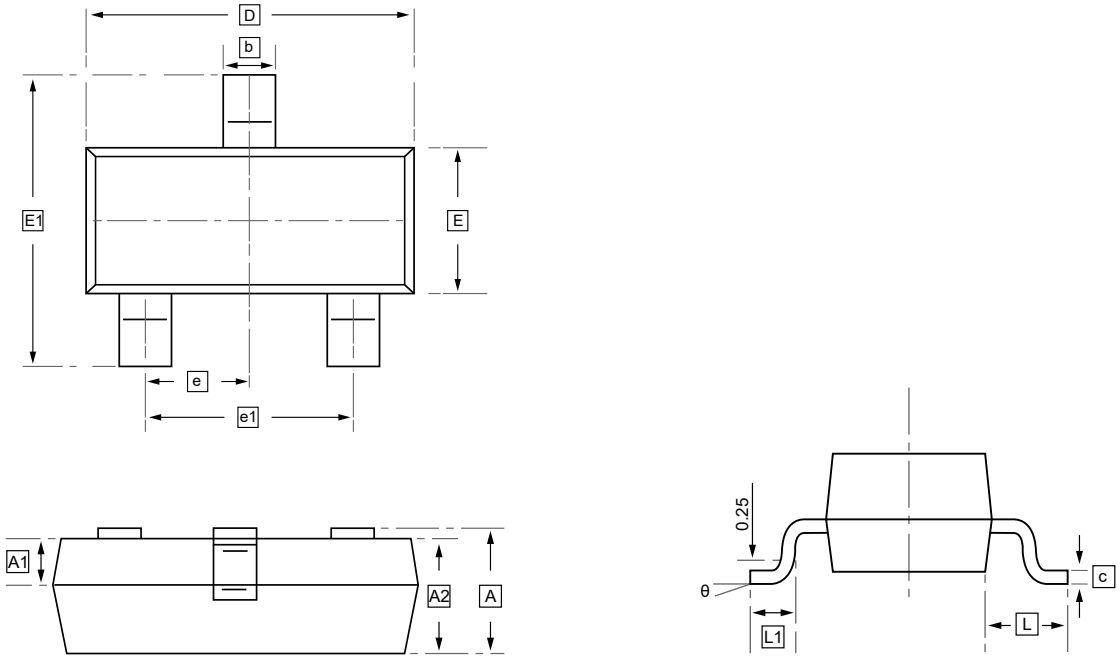


Figure 6: Clamping Voltage vs Peak Pulse Current

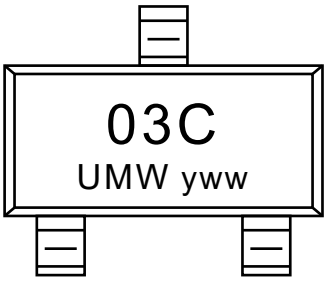
8.SOT-23 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E	E1	e	e1	L	L1	θ
Min	0.900	0.000	0.900	0.300	0.080	2.800	1.200	2.250	0.950	1.800	0.550	0.300	0°
Max	1.150	0.100	1.050	0.500	0.150	3.000	1.400	2.550	TYP.	2.000	REF.	0.500	8°

9.Ordering information



yww: Batch Code

Order Code	Marking	Package	Base QTY	Delivery Mode
UMW SM03C	03C	SOT-23	3000	Tape and reel
UMW SM05C	05C	SOT-23	3000	Tape and reel
UMW SM08C	08C	SOT-23	3000	Tape and reel
UMW SM12C	12C	SOT-23	3000	Tape and reel
UMW SM15C	15C	SOT-23	3000	Tape and reel
UMW SM18C	18C	SOT-23	3000	Tape and reel
UMW SM20C	20C	SOT-23	3000	Tape and reel
UMW SM24C	24C	SOT-23	3000	Tape and reel
UMW SM36C	36C	SOT-23	3000	Tape and reel

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