

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

**SMXX**

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**Product specification**

## 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=8/20 $\mu\text{s}$ )  
Protects one bidirectional line or two unidirectional lines
- unidirectional lines
- Low clamping voltage
- Working voltages: 3.3V to 36V
- Low leakage current

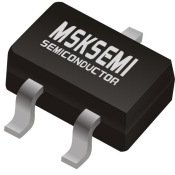
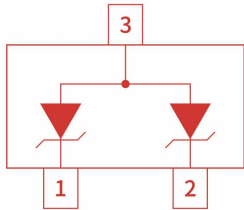
## MACHANICAL DATA

- SOT-23 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed:  
● 260C/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

## Reference News

PACKAGE OUTLINE	PIN CONFIGURATION
 <p>SOT-23</p>	

## Marking for the SMXX series

<b>VRWM</b>	3.3V	5V	8V	12V	15V	18V	20V	24V	36V
<b>Marking</b>	M03	M05	M08	M12	M15	M18	M20	M24	M36

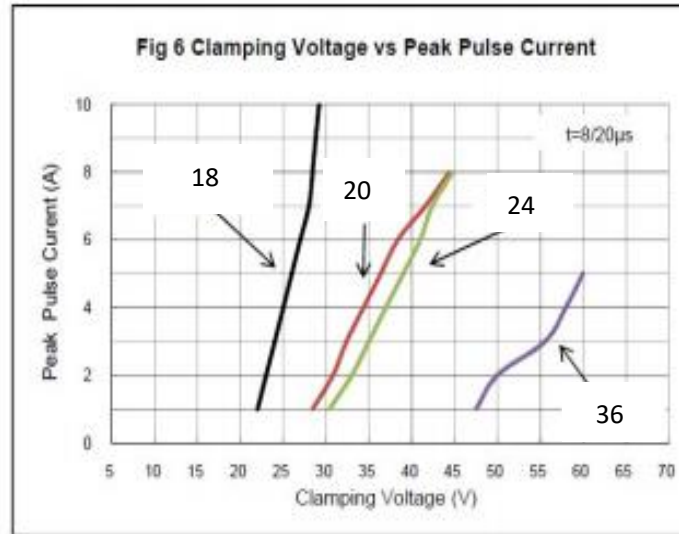
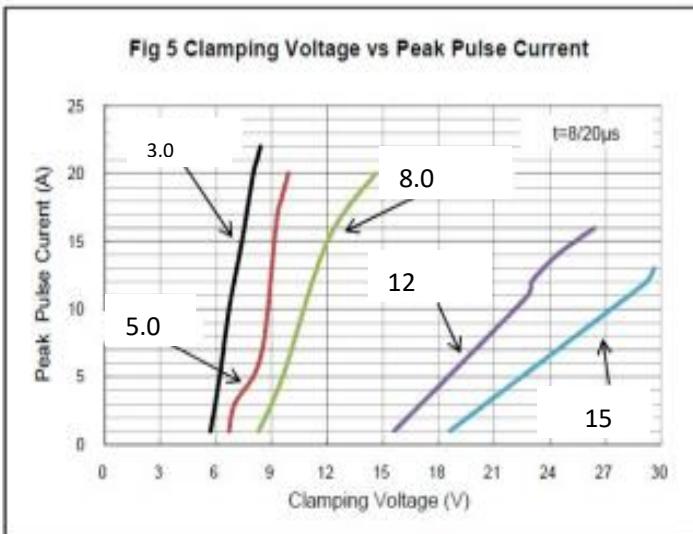
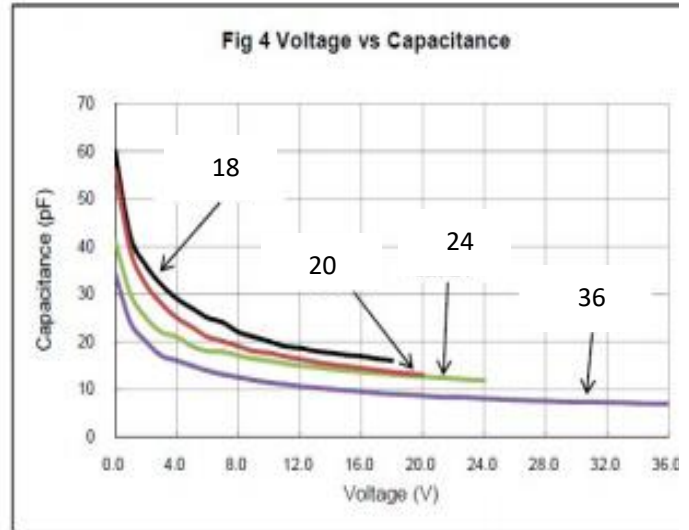
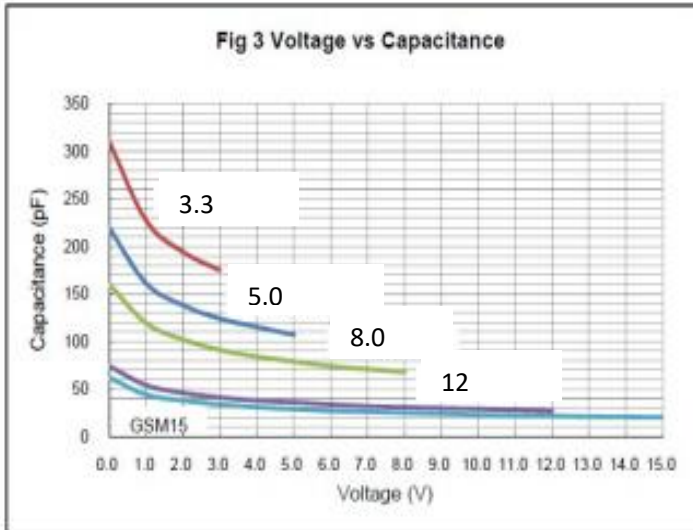
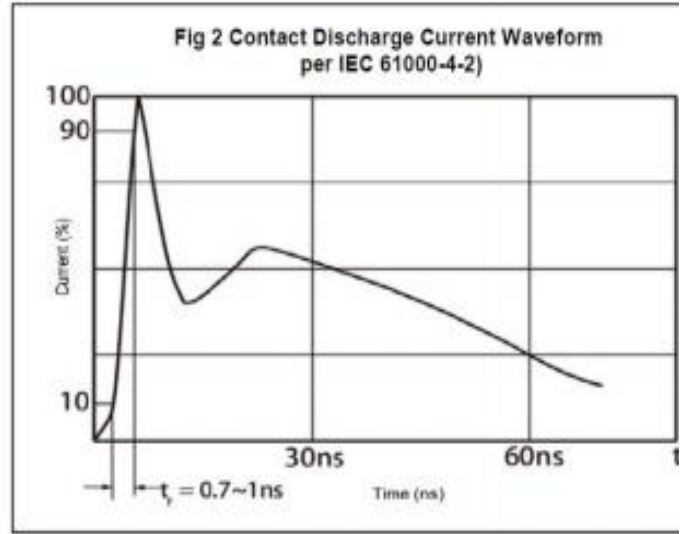
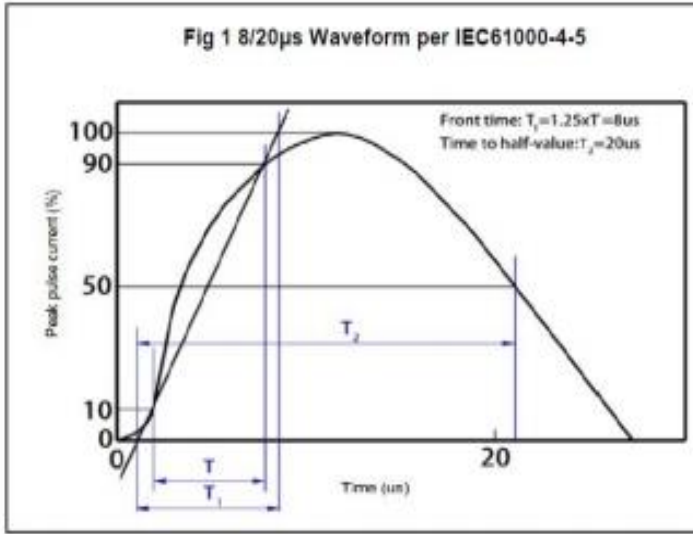
**ABSOLUTE MAXIMUM RATING**

Symbol	Parameter	Value	Units
VESD	ESD per IEC 61000-4-2 (Contact)	±30	kV
	ESD per IEC 61000-4-2 (Air)	±30	
PPP	Peak Pulse Power (8/20µs)	350	W
TOPT	Operating Temperature	-55~125	°C
TSTG	Storage Temperature	-55~150	°C
TL	Lead Soldering Temperature	260(10 sec)	°C

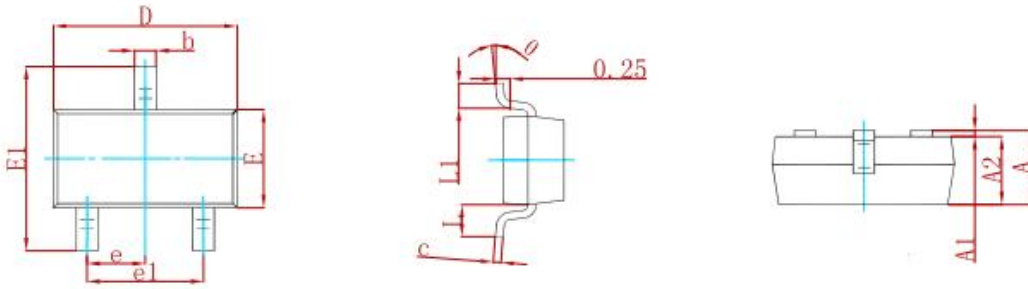
**ELECTRICAL CHARACTERISTICS (Tamb=25 °C)**

PART NUMBER	V RWM (V) (max.)	V B (V) (min.)	IT (mA)	VC @1 A (V) (max.)	VC (V)		IR (µA) (max.)	CT (pF) (max.)
					(max.)	(@A)		
SM03	3.3	4	1	7.0	14	20	40	450
SM05	5	6	1	9.8	18	17	10	300
SM08	8	8.5	1	13.4	24	15	2	240
SM12	12	13.3	1	19	32	11	1	130
SM15	15	16.7	1	24	38	10	1	120
SM18	18	20	1	29	45	9	1	100
SM20	20	22.3	1	35	50	8	1	90
SM24	24	26.7	1	43	52	7	1	80
SM36	36	40	1	60	75	5	1	60

**ELECTRICAL CHARACTERISTICS CURVE**

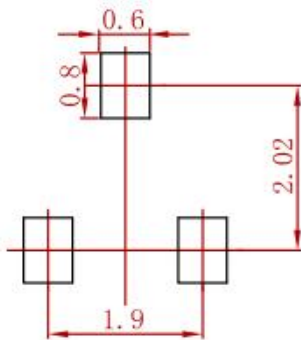


**PACKAGE MECHANICAL DATA**



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

**Suggested Pad Layout**



Note:  
 1. Controlling dimension: In millimeters.  
 2. General tolerance: ± 0.05mm.  
 3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

P/N	PKG	QTY
SMXX	SOT-23	3000

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