

## FEATURES

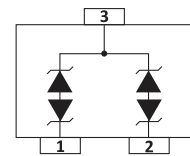
- | 350 Watts Peak Pulse Power per (tp=8/20μs)
- | Protects two bidirectional lines
- | Low clamping voltage
- | Working voltages: 3.3V to 36V
- | Low leakage current



SOT-23

## 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



Schematic Symbol

## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±30KV (Contact) ±30KV (Air)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit
$V_{ESD}$	ESD per IEC 61000-4-2 (Contact)	±30	KV
$V_{ESD}$	ESD per IEC 61000-4-2 (Air)	±30	KV
$P_{PP}$	Peak Pulse Power (8/20μs)	350	W
$T_{OPT}$	Operating Temperature	-55~+150	°C
$T_{STG}$	Storage Temperature	-55~+150	°C
$T_L$	Lead Soldering Temperature	260 (10 sec.)	°C

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Part Number	Marking	V <sub>RWM</sub> (V)	V <sub>B</sub> (V)	I <sub>T</sub> (mA)	V <sub>C@1A</sub> (V)	V <sub>C</sub> (V)		I <sub>R</sub> (μA)	C <sub>J</sub> (pF)
		Max.	Min.		Max.	Max.	(@A)	Max.	Max.
SM03C	C03	3.3	4.0	1	7.5	16.0	20	40	450
SM05C	C05	5.0	6.0	1	9.8	18.0	17	10	200
SM08C	C08	8.0	8.5	1	13.4	24.0	15	2	120
SM12C	C12	12.0	13.3	1	19.0	32.0	11	1	75
SM15C	C15	15.0	16.7	1	24.0	38.0	10	1	68
SM18C	C18	18.0	20.0	1	29.0	45.0	9	1	57
SM20C	C20	20.0	22.3	1	35.0	50.0	8	1	52
SM24C	C24	24.0	26.7	1	43.0	52.0	7	1	50
SM36C	C36	36.0	40.0	1	60.0	75.0	4.5	1	35

## CHARACTERISTIC CURVES

Figure1: 8/20μs Waveform per IEC61000-4-5

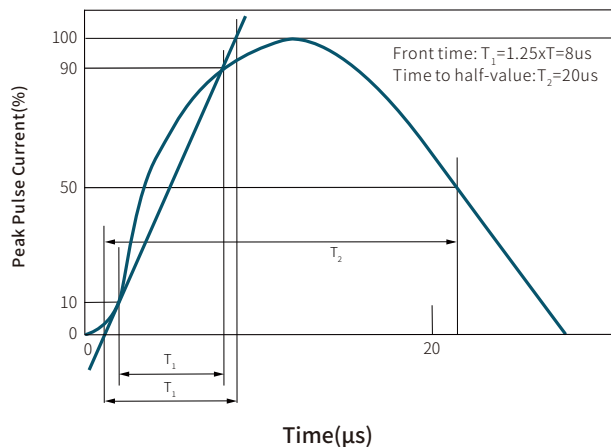


Figure2: Contact Discharge Current Waveform per IEC 61000-4-2

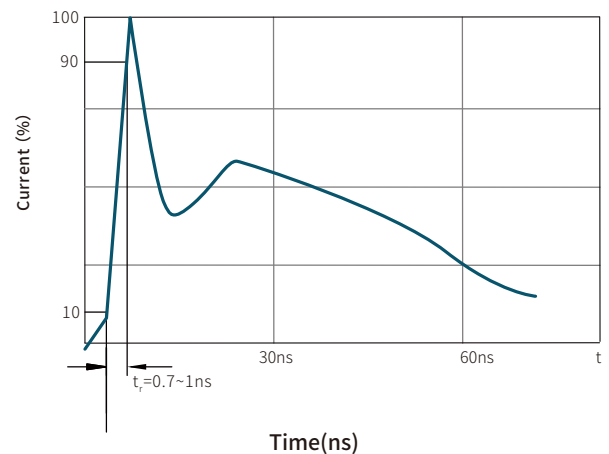


Figure3: Voltage vs Capacitance

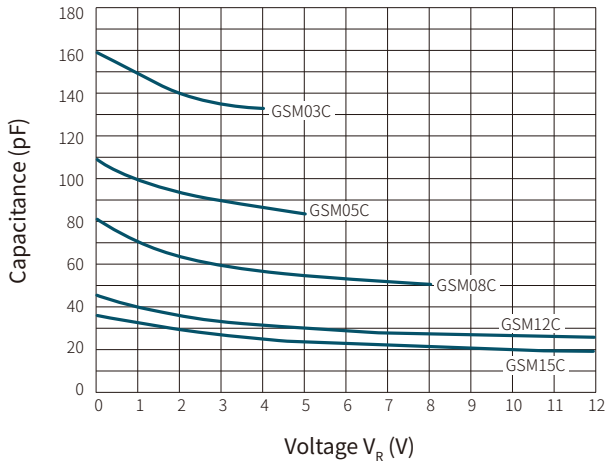


Figure4: Voltage vs Capacitance

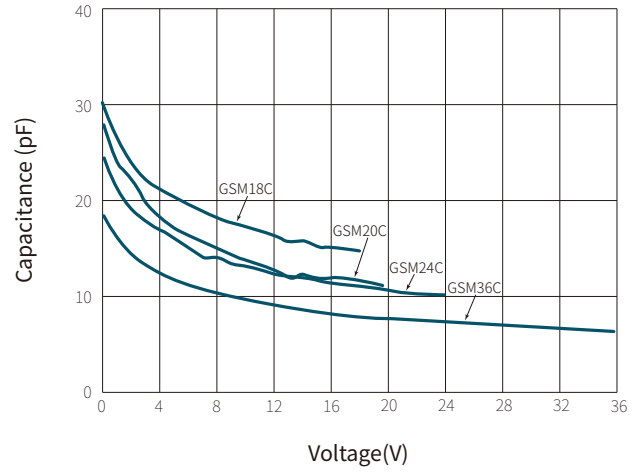


Figure5: Clamping Voltage vs Peak Pulse Current

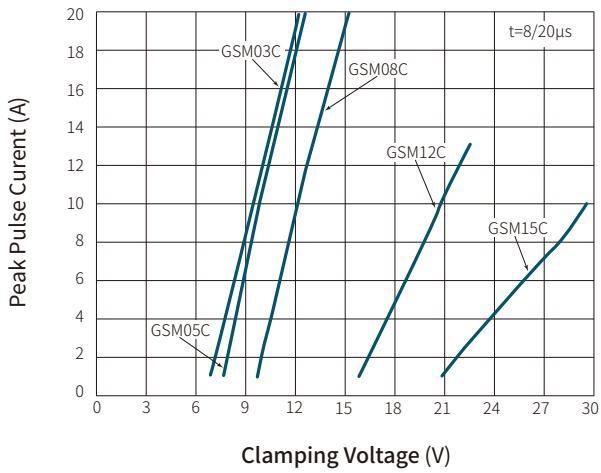
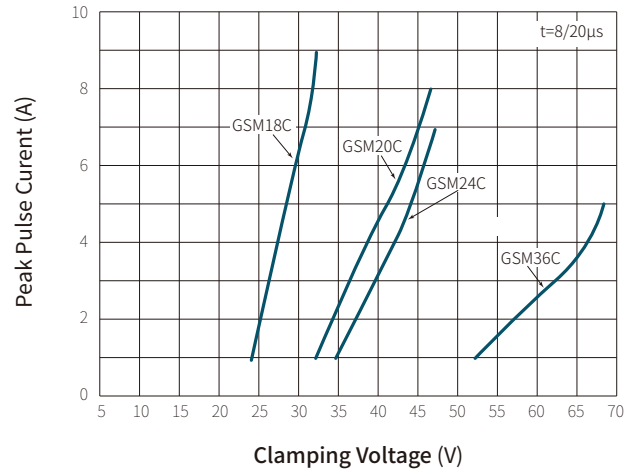
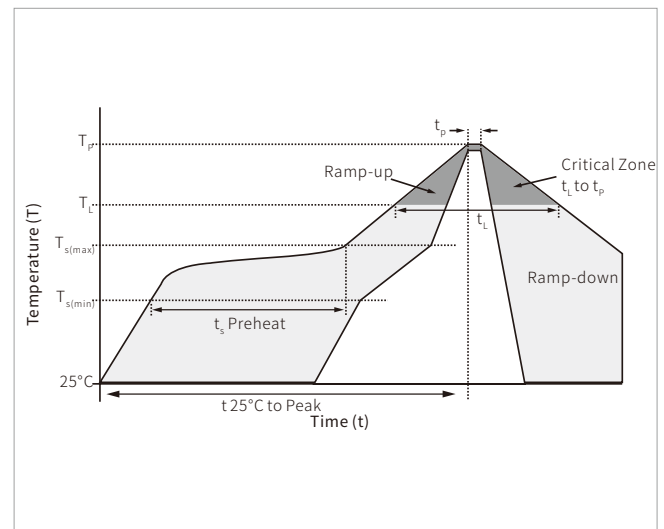


Figure6: Clamping Voltage vs Peak Pulse Current

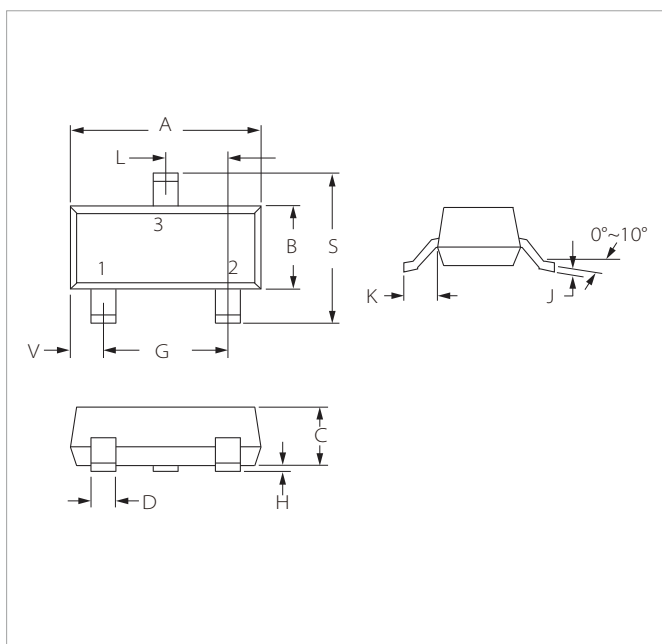


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C

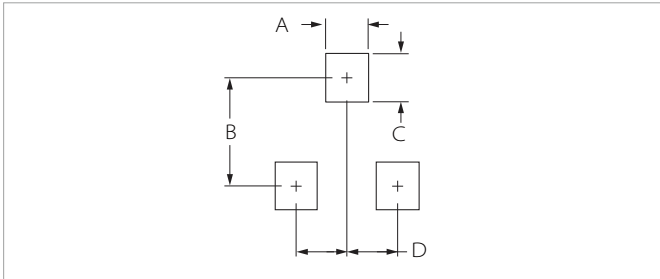


## SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.10	0.001	0.004
J	0.08	0.18	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SM03C-SM36C	SOT-23	3000PCS	7"

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