



Micro Commercial Components



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## Features

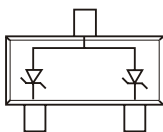
- Halogen free available upon request by adding suffix "-HF"
- For sensitive ESD protection
- Stand-off Voltage: 22V
- Low leakage
- ESD rating of class 3 (>20KV) per Human Body Mode
- Fast response, response time less than 1ns.
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

## Maximum Ratings

- Operating Junction Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact		$\pm 15$ $\pm 8$	KV
ESD Voltage per human body mode		20	KV
Power Dissipation	Pd	225	mw
Lead Solder Temperature-Maximum (10 Second Duration)	T <sub>L</sub>	260	°C

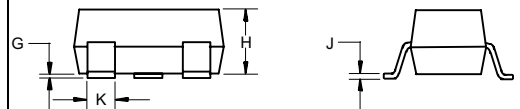
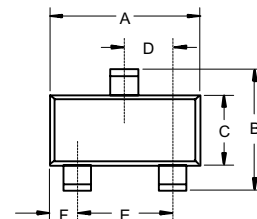
## Pin Configuration-Top View



# SM22

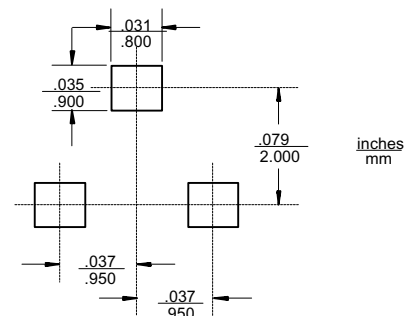
## 22Volts ESD Protection Devices

### SOT-23



DIMENSIONS

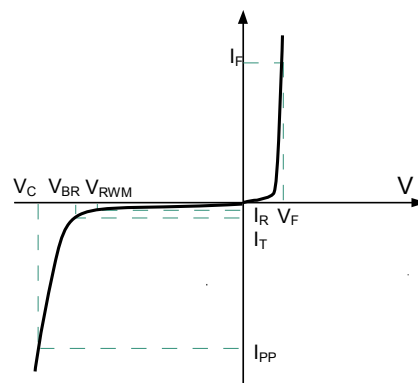
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	



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

### UNIDIRECTIONAL (Circuit tied to Pins 1 and 3 or 2 and 3)

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>
P <sub>pk</sub>	Peak Power Dissipation
C	Capacitance @V <sub>R</sub> =0 and f =1MHz



## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted, V<sub>F</sub> = 0.9 V Max. @ I<sub>F</sub> = 10mA for all types)

Device	V <sub>RWM</sub> (V)	I <sub>R</sub> (Ç A) @ V <sub>RWM</sub>	V <sub>BR</sub> (V) @ I <sub>T</sub> (Note 2)		I <sub>T</sub>	V <sub>C</sub> @I <sub>PP</sub> =1 A	V <sub>C</sub> @I <sub>PP</sub> =3A	P <sub>pk</sub> + (W)	C (pF) Pin 1 to 3
	Max	Max	Min	Max	mA	V	V	Max	Typ
SM22	22	1.0	23.5	26.5	1.0	38	44	300	80

V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C.

## TYPICAL CHARACTERISTICS

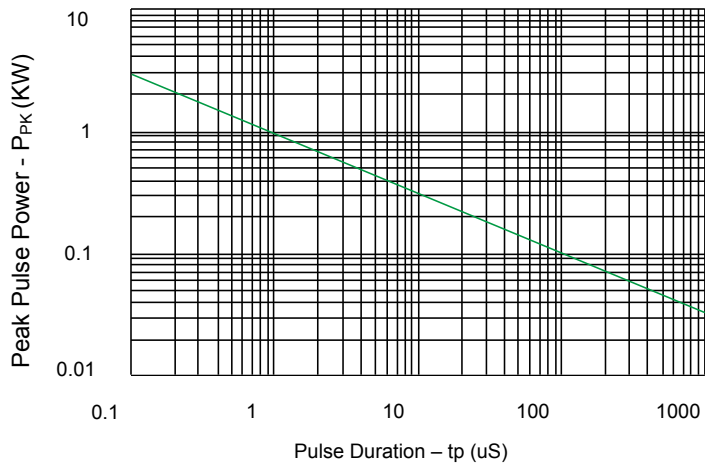


Fig1. Non-Repetitive Peak Pulse Power vs. Pulse time

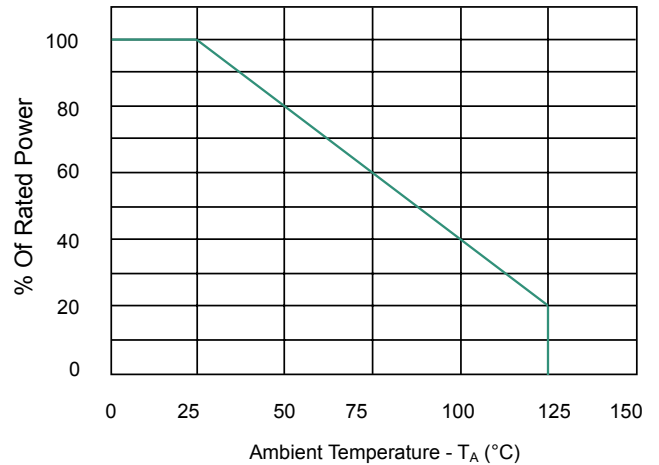


Fig2. Power Derating Curve

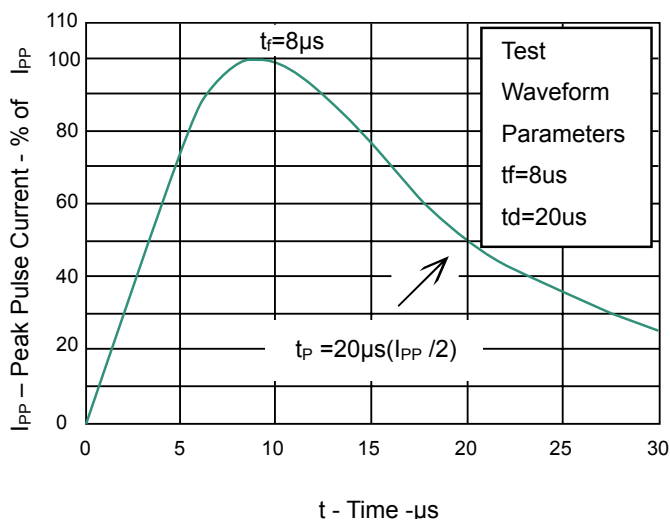


Fig 3. Pulse Waveform



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## Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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