



Micro Commercial Components

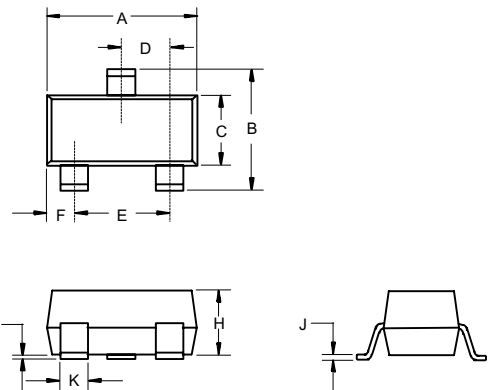


Micro Commercial Components
 20736 Marilla Street Chatsworth
 Chatsworth, CA 91311
 Phone: (818) 701-4933
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SM22

12Volts ESD Protection Devices

SOT-23



Features

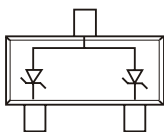
- Halogen free available upon request by adding suffix "-HF"
- For sensitive ESD protection
- Stand-off Voltage:22V
- Low leakage
- ESD rating of class 3(>20KV)per Human Body Mode
- Fast response ,response time less than 1ns.
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See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

Maximum Ratings

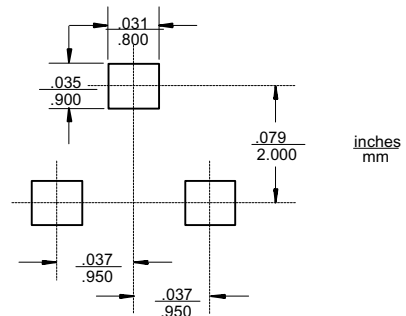
- Operating Junction Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact		± 15 ± 8	KV
ESD Voltage per human body mode		20	KV
Power Dissipation	Pd	225	mw
Lead Solder Temperature-Maximum (10 Second Duration)	T _L	260	°C

Pin Configuration-Top View



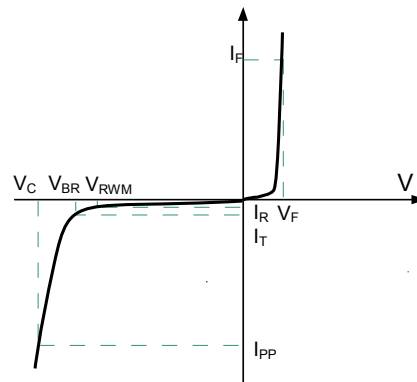
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Capacitance @ $V_R=0$ and $f=1\text{MHz}$



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.9\text{ V Max.}$ @ $I_F = 10\text{mA}$ for all types)

Device	V_{RWM} (V)	I_R (μA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)		I_T	V_C @ $I_{PP}=1\text{ A}$	V_C @ $I_{PP}=3\text{A}$	P_{pk}^+ (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_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .



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TYPICAL CHARACTERISTICS

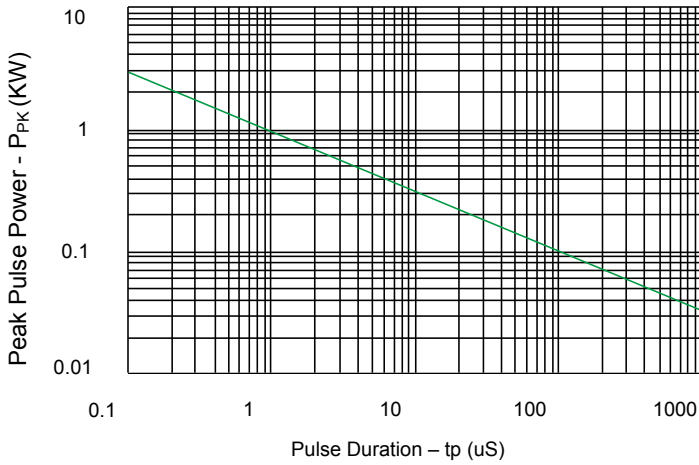


Fig1. Non-Repetitive Peak Pulse Power vs. Pulse time

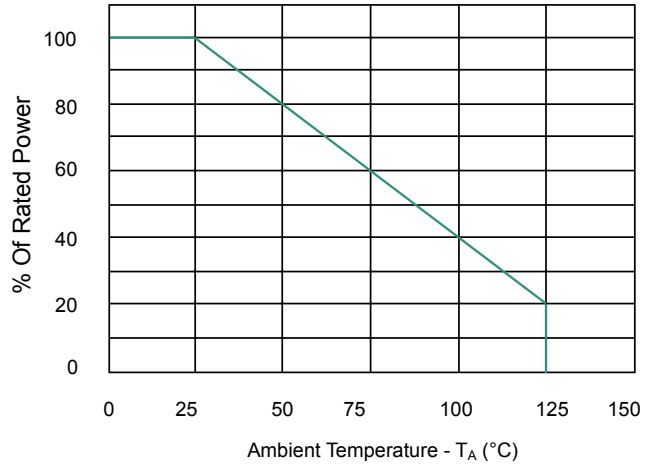


Fig2. Power Derating Curve

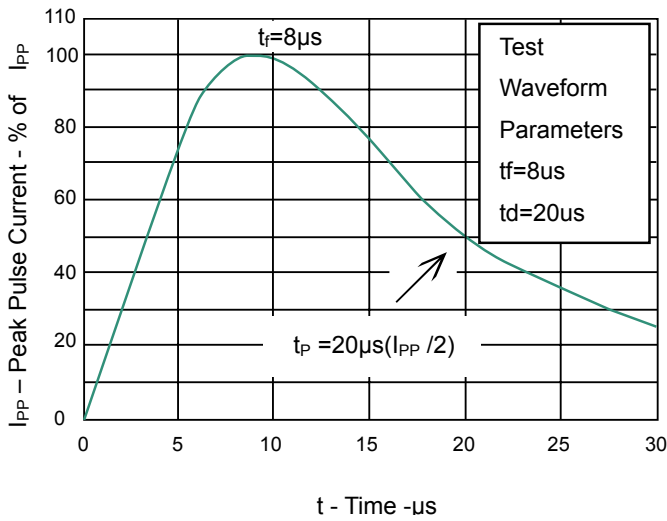


Fig 3. Pulse Waveform



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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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