



Micro Commercial Components



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SM05
Thru
SM12

Features

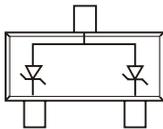
- Halogen free available upon request by adding suffix "-HF"
For sensitive ESD protection
Excellent clamping capability
Low leakage
ESD rating of class 3(>16KV)per Human Body Mode
Fast response ,response time less than 1ns.
Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
Epoxy meets UL 94 V-0 flammability rating
Moisture Sensitivity Level 1

Maximum Ratings

- Operating Junction & Storage Temperature: -55°C to +150°C
Maximum Thermal Resistance: 556°C/W Junction To Ambient

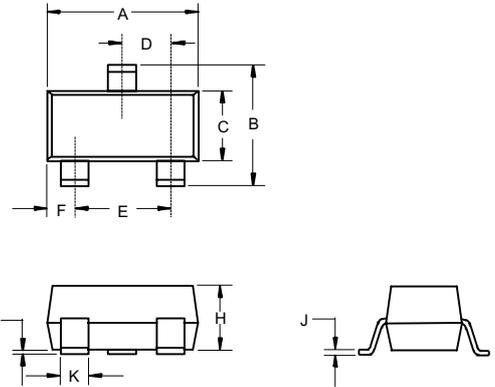
Table with 5 columns: Parameter, Symbol, Limits, unit. Rows include IEC61000-4-2(ESD) Air Contact, ESD Voltage per human body mode, and Power Dissipation.

Pin Configuration-Top View

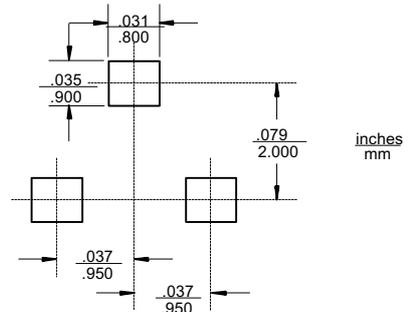


5V~12Volts
ESD Protection
Devices

SOT-23



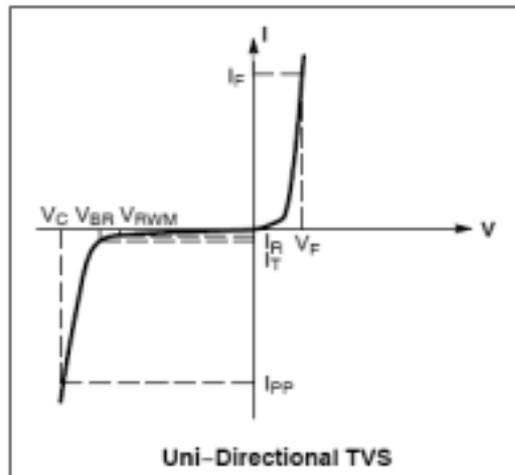
DIMENSIONS table with columns for DIM, INCHES (MIN, MAX), MM (MIN, MAX), and NOTE. Lists dimensions A through K.



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	Device Marking	V_{RWM} (V)	I_R (μA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)		I_T	V_C @ $I_{PP}=1\text{ A}$	Max I_{PP}^+	P_{pk}^+ (W)	C (pF) Pin 1 to 3
		Max	Max	Min	Max	mA	V	A	Max	Typ
SM05	5M	5	10	6.2	7.3	1.0	9.8	12	300	110
SM12	12M/12C	12	1.0	13.3	15.75	1.0	19	11.2	300	60

+Surge current waveform per Figure 3

2. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .

TYPICAL CHARACTERISTICS

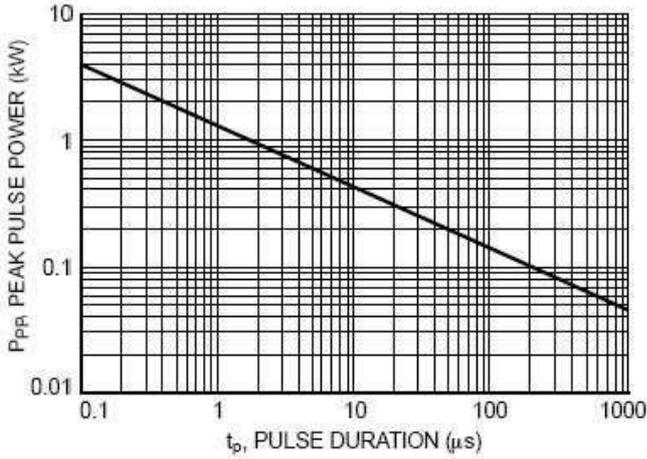


Figure 1. Non-Repetitive Peak Pulse Power versus Pulse Time

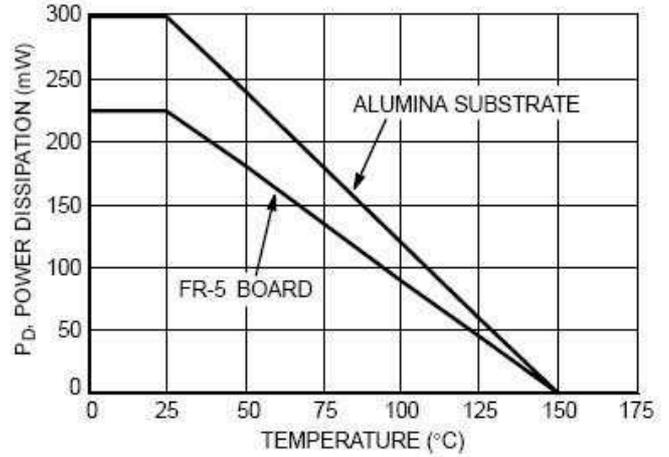


Figure 2. Steady State Power Derating Curve

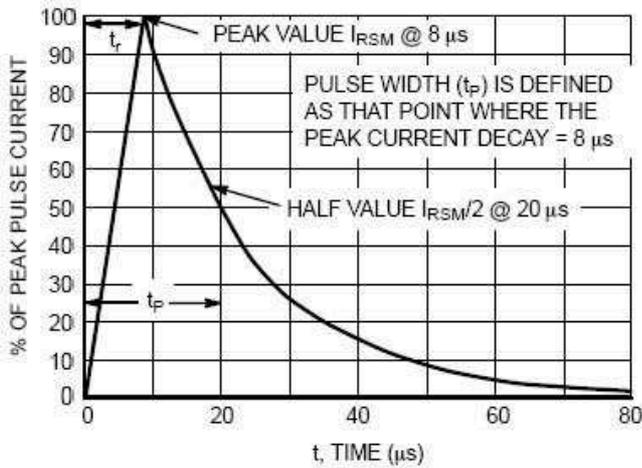


Figure 3. $8 \times 20 \mu\text{s}$ Pulse Waveform



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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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