THE DATASHEET OF

ESD12VD3-TP

Micro Commercial Components

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ESD5V0D3 Thru ESD12VD3

5V~12Volts ESD Protection Devices

Features

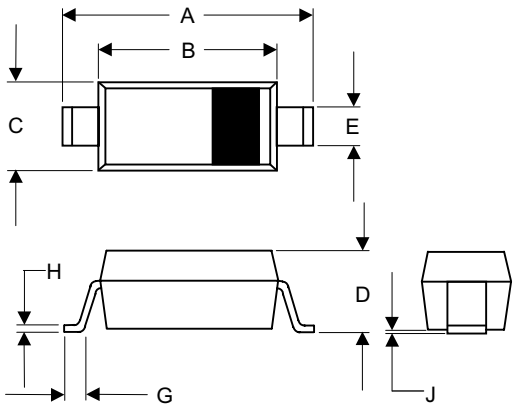
- Halogen free available upon request by adding suffix "-HF"
- For sensitive ESD protection
- Excellent clamping capability
- Low leakage
- ESD rating of class 3(>16KV)per Human Body Mode
- For space saving application
- Fast response ,response time less than 1ns.
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

- Operating Junction &StorageTemperature: -55°C to +150°C
- Maximum Thermal Resistance: 625°C/W Junction To Ambient

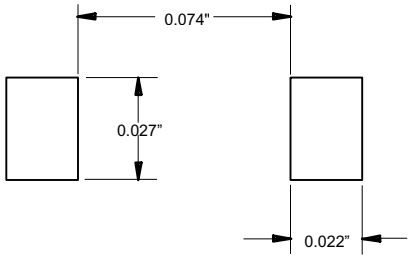
Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact		±15 ±8	KV
ESD Voltage per human body mode		30	KV
Power Dissipation	Pd	200	mw

SOD323



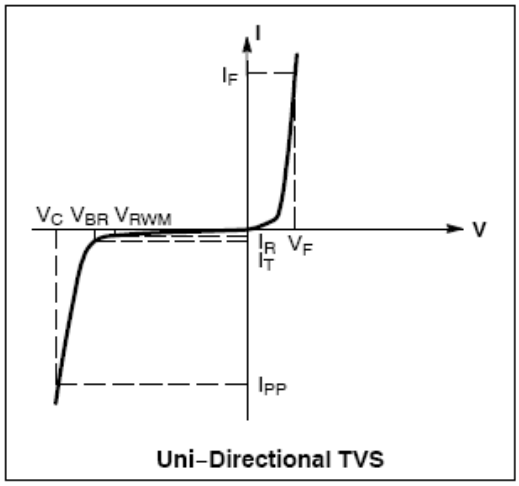
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.090	.107	2.30	2.70	
B	.063	.071	1.60	1.80	
C	.045	.053	1.15	1.35	
D	.031	.045	0.80	1.15	
E	.010	.016	0.25	0.40	
G	.004	.018	0.10	0.45	
H	.004	.010	0.10	0.25	
J	-----	.006	-----	0.15	

SUGGESTED SOLDER PAD LAYOUT



ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

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	Max. Capacitance @V_R=0 and f =1MHz



Uni-Directional TVS

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 0.9 V Max. @ I_F = 10mA for all types)

Device	Device Marking	V_{RWM} (V)	I_R (μ A) @ V_{RWM}	V_{BR} (V) @ I_T(Note 2)		I_T	Vc @IPP = 5 A	I_{PP}(A) +	V_c (V) @Max I_{PP}+	P_{pk} + (W)	C (pF)
		Max	Max	Min	Max	mA	V	Max	Max	Max	Typ
ESD5V0D3	ZA	5.0	1.0	6.2	7.3	1.0	9.8	15	15.5	350	350
ESD12VD3	ZC	12	1.0	13.3	15.75	1.0	22	12	33	350	150

+Surge current waveform per Figure 6.

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

TYPICAL CHARACTERISTICS

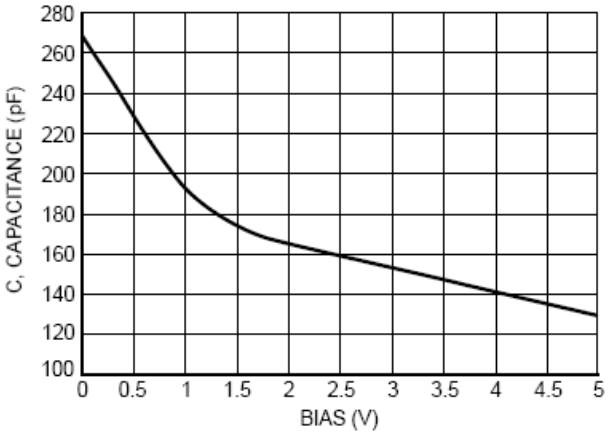


Figure 1. SD05 Typical Capacitance versus Bias Voltage

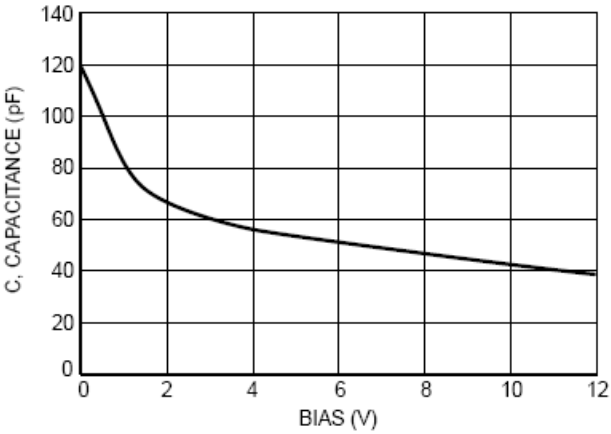


Figure 2. SD12 Typical Capacitance versus Bias Voltage

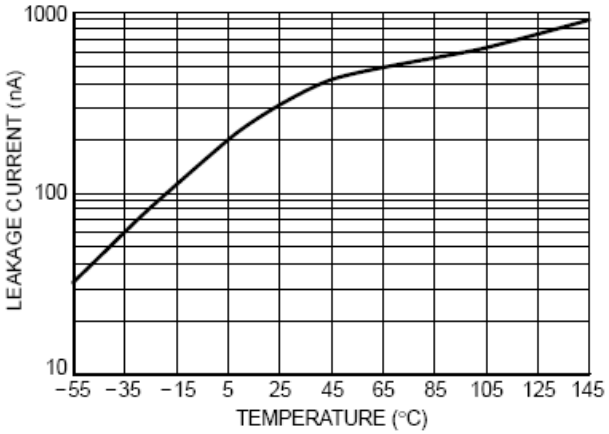


Figure 3. SD05 Typical Leakage Current versus Temperature

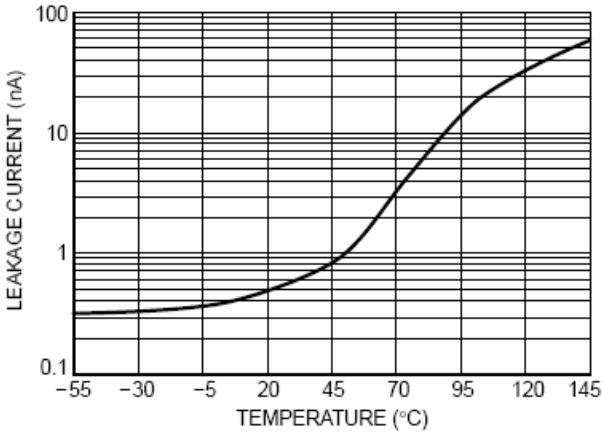


Figure 4. SD12 Typical Leakage Current versus Temperature

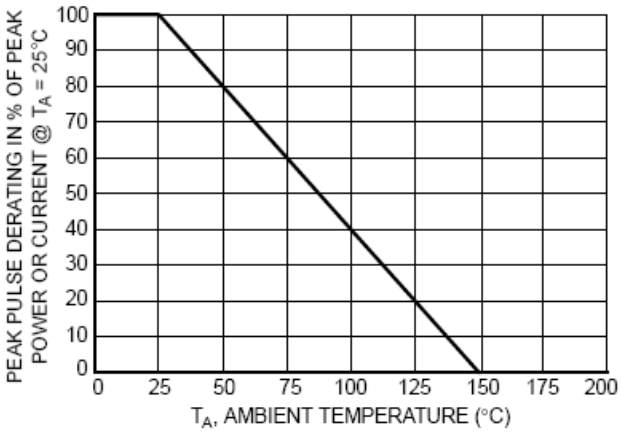


Figure 5. Pulse Derating Curve

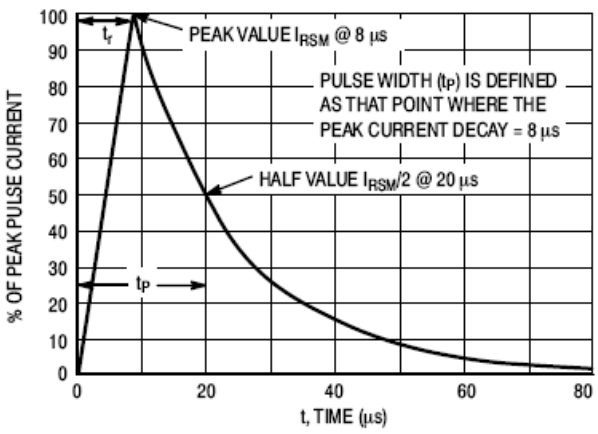


Figure 6. 8 × 20 µs Pulse Waveform

Micro Commercial Components

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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