



# THE DATASHEET OF ESD3V3D7-TP





Micro Commercial Components



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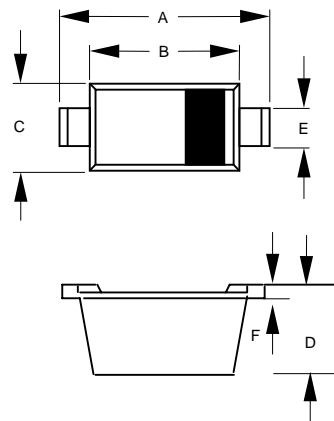
# ESD3V3D7 Thru ESD12VD7

## 3.3V~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 Sensivity Level 1
- Lead Free Finish/RoHS Compliant /Halogen-Free Version available("P" Suffix designates RoHS Compliant. HF suffix designates Halogen-Free. See ordering information)

### SOD723



### Maximum Ratings

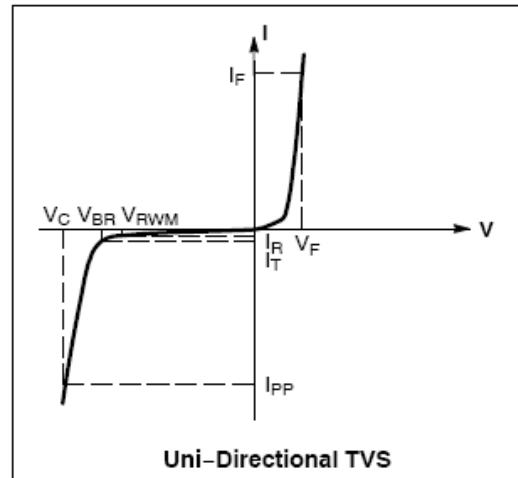
- Operating Junction & Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance: 833°C/W Junction To Ambient

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact		±30	KV
ESD Voltage per human body mode per machine mode		16	KV
		400	V
Power Dissipation	Pd	150	mw

DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.051	.059	1.30	1.50	
B	.035	.043	0.90	1.10	
C	.022	.026	0.55	0.65	
D	.021	.026	0.525	0.65	
E	.010	.014	0.25	0.35	
F	.003	.006	0.08	0.15	

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  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 $f=1\text{MHz}$



**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)	$I_R$ ( $\mu\text{A}$ ) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 2)	$I_T$	$I_{PP}$ (A) +	$V_C$ (V) @Max $I_{PP}$ +	$P_{pk}$ + (W)	C (pF)
		Max	Max	Min	mA	Max	Max	Max	Typ
ESD3V3D7	E0	3.3	2.5	5.0	1.0	10.4	11.9	113	80
ESD5V0D7	E2	5.0	1.0	6.2	1.0	8.8	13.3	117	65
ESD12VD7	E3	12	1.0	13.5	1.0	5.4	23.7	128	30

+Surge current waveform per Figure 1.

2.  $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$ .

**TYPICAL CHARACTERISTICS**

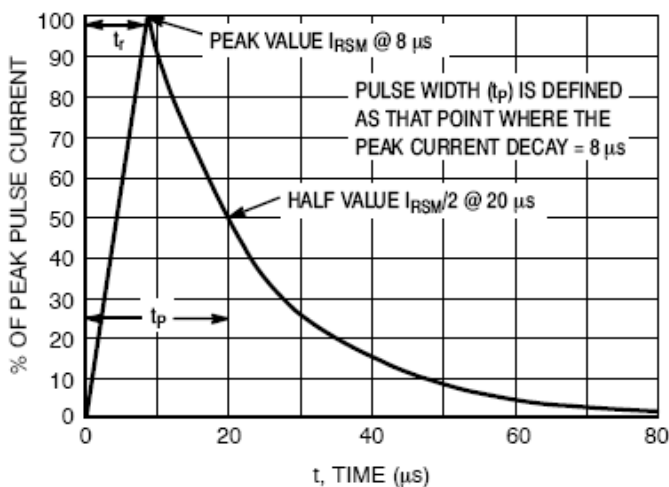
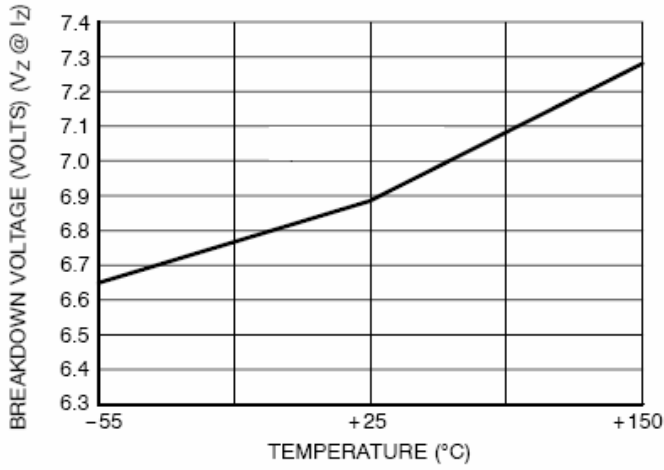
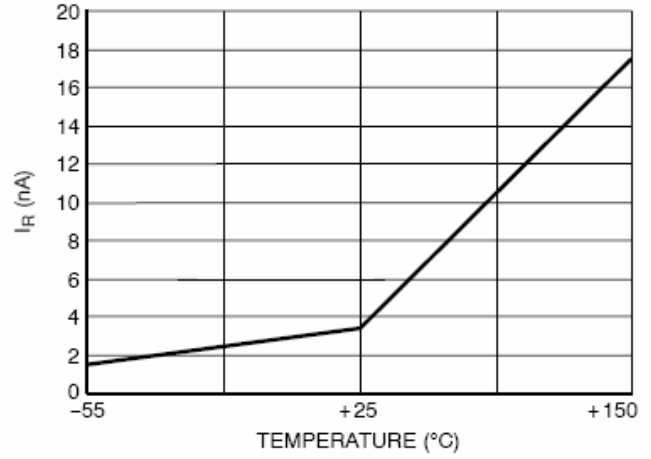


Figure 1. 8 x 20  $\mu\text{s}$  Pulse Waveform



**Figure 2. Typical Breakdown Voltage versus Temperature**



**Figure 3. Typical Leakage Current versus Temperature**



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel
Part Number-TP-HF	Tape&Reel: 8Kpcs/Reel; Halogen free

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