



# THE DATASHEET OF ESD12VD7-TP





Micro Commercial Components

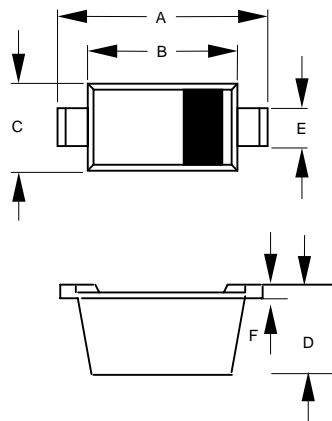


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ESD3V3D7
Thru
ESD12VD7

3.3V~12Volts
ESD Protection
Devices

SOD723



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)

Maximum Ratings

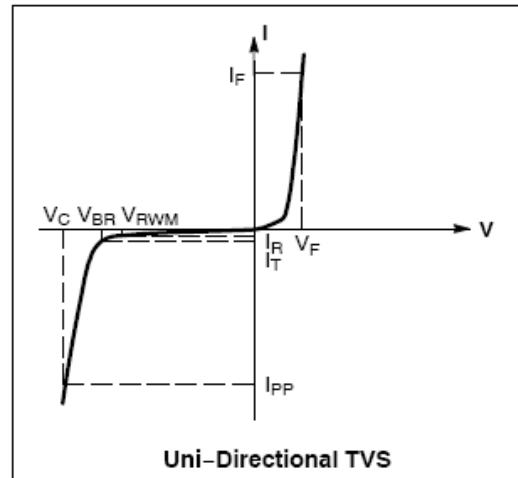
- Operating Junction &Storage Temperature: -55°C to +150°C
Maximum Thermal Resistance: 833°C/W Junction To Ambient

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

Table titled DIMENSIONS with columns for DIM, INCHES (MIN, MAX), MM (MIN, MAX), and NOTE. Rows A-F correspond to dimensions in the diagram.

**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**

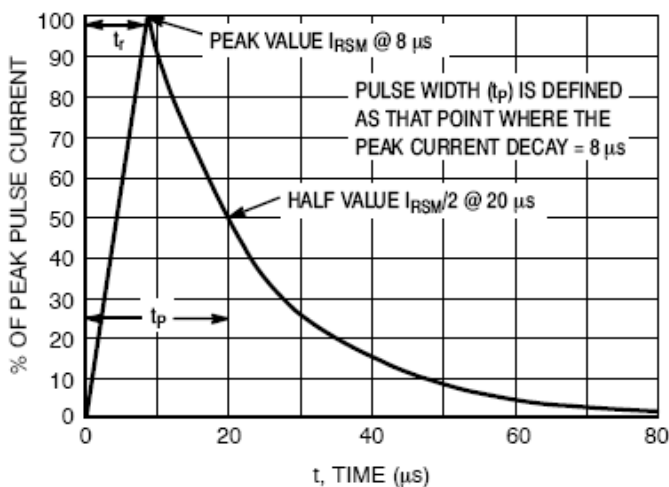
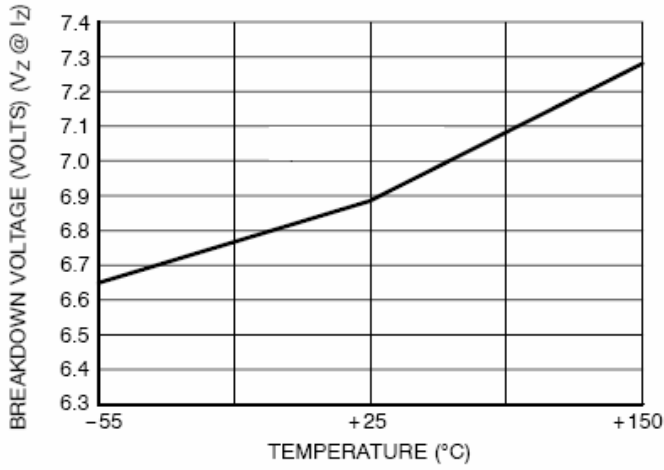
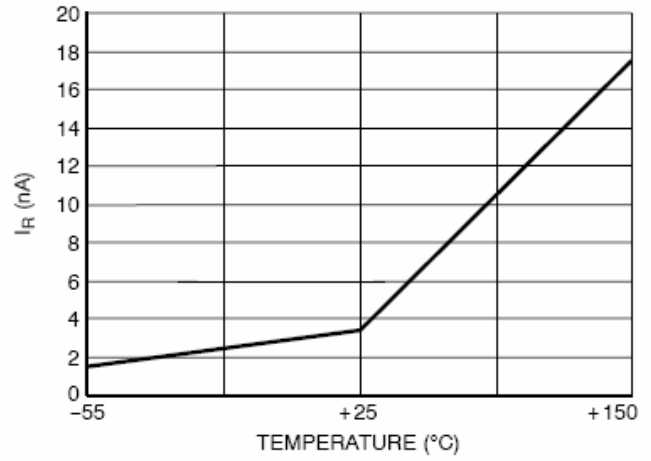


Figure 1. 8 x 20  $\mu\text{s}$  Pulse Waveform



**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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