

### Features

- For Sensitive ESD Protection
- Excellent Clamping Capability
- Low Leakage
- For Space Saving Application
- Fast Response, Response Time Less than 1ns
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

### Maximum Ratings

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

MCC Part Number	Device Marking
ESD3V3D7	E0
ESD5V0D7	E2
ESD12VD7	E3

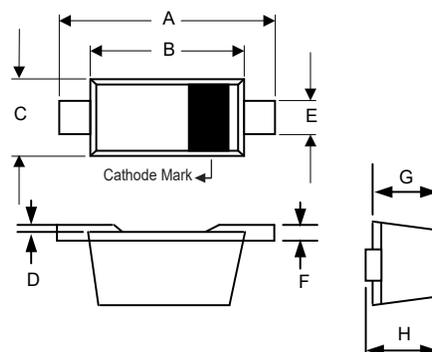
IEC61000-4-2(ESD)	Air Contact	±30KV ±30KV
JESD22-A114-B(ESD)	Machine Human Body	±0.4KV ±16KV
Power Dissipation	P <sub>D</sub>	150mW

### Internal Structure



## ESD Protection Device

### SOD-723



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.051	0.059	1.30	1.50	
B	0.035	0.043	0.90	1.10	
C	0.022	0.026	0.55	0.65	
D	0.001	0.003	0.01	0.07	
E	0.010	0.014	0.25	0.35	
F	0.003	0.006	0.08	0.15	
G	0.020	0.023	0.52	0.58	
H	0.021	0.026	0.53	0.65	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

ESD3V3D7

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	5			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 3.3\text{V}$			2.5	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F = 10\text{mA}$			0.9	V
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu\text{s}$			10.4	A
Clamping Voltage	$V_C$	$I_{PP} = 10.4\text{A}, t_p = 8/20\mu\text{s}$			11.9	V
Peak Pulse Power	$P_D$	$t_p = 8/20\mu\text{s}$			113	W
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$		80		pF

ESD5V0D7

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	6.2			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$			1	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F = 10\text{mA}$			0.9	V
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu\text{s}$			8.8	A
Clamping Voltage	$V_C$	$I_{PP} = 8.8\text{A}, t_p = 8/20\mu\text{s}$			13.3	V
Peak Pulse Power	$P_D$	$t_p = 8/20\mu\text{s}$			117	W
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$		65		pF

ESD12VD7

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	13.5			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 12\text{V}$			1	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F = 10\text{mA}$			0.9	V
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu\text{s}$			5.4	A
Clamping Voltage	$V_C$	$I_{PP} = 5.4\text{A}, t_p = 8/20\mu\text{s}$			23.7	V
Peak Pulse Power	$P_D$	$t_p = 8/20\mu\text{s}$			128	W
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$		30		pF

## Curve Characteristics

Fig. 1 - 8 X 20 $\mu$ s Pulse Waveform

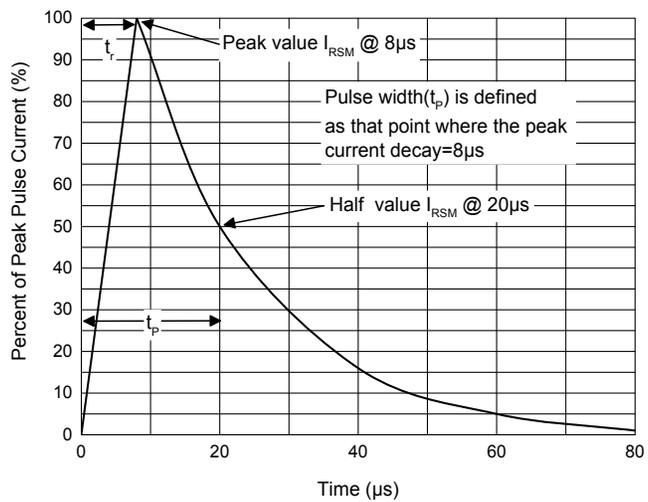
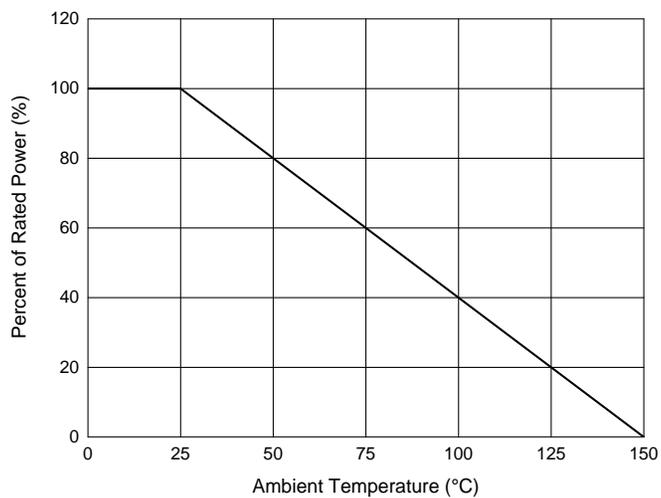


Fig. 2 - Pulse Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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