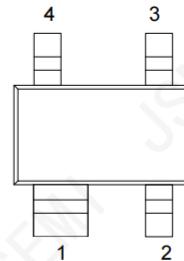


Description

The PESD2ETH-AXR-JSM is Ultra low capacitance double rail-to-rail Electro Static Discharge (ESD) protection diode in a small SOT143 Surface Mounted Device (SMD) plastic package designed to protect two Hi-Speed data lines or high frequency signal lines from the damage caused by ESD and other transients.



Features

- IEC 61000-4-2 Level 4 ESD Protection
 $\pm 15\text{kV}$ Contact Discharge
 $\pm 15\text{kV}$ Air Discharge
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Surge) 9A (8/20 μs)
- Protect two I/O lines
- Low operating and clamping voltage
- Low leakage current
- Solid-state silicon technology

Applications

- USB 2.0
- DVI and HDMI interfaces
- Mobile and cordless phones
- Personal Digital Assistants (PDA)
- Digital cameras
- PCs, notebooks, printers and other PC peripherals

Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

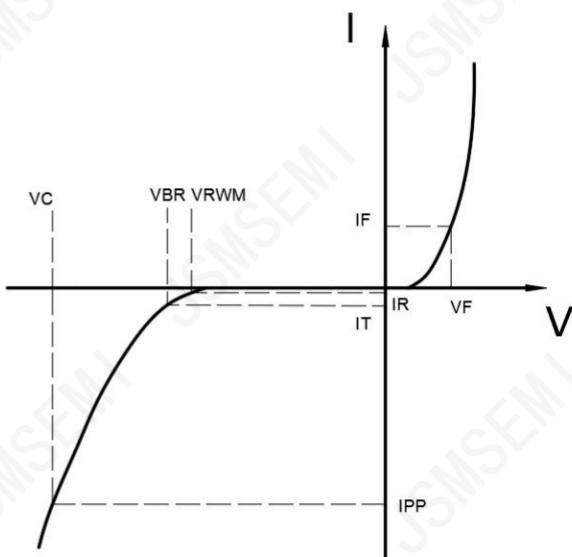
Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P_{pk}	-	180	W
Peak pulse current (tp=8/20us)@25°C	I_{PP}		9	A
ESD (IEC61000-4-2 air discharge) @25°C	V_{ESD}	-	± 15	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V_{ESD}	-	± 15	kV
Junction temperature	T_J	-	150	°C
Operating temperature	T_{OP}	-40	125	°C
Storage temperature	T_{STG}	-55	150	°C
Lead temperature	T_L	-	260	°C

Electrical Characteristics

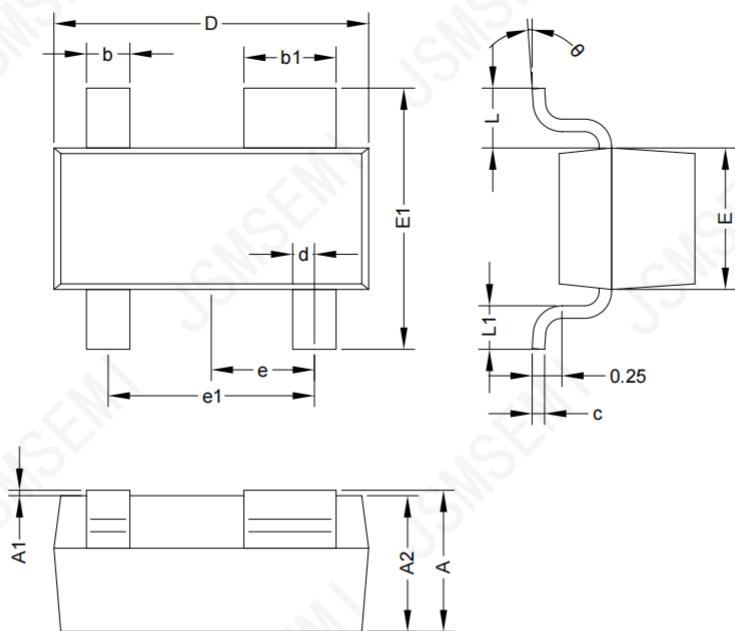
At $TA = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$IT=1\text{mA}$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$			1.0	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}; tp=8/20\text{us}$		8.0	10.0	V
Clamping Voltage	V_C	$I_{PP}=9\text{A}; tp=8/20\text{us}$		15.0	18.0	V
Junction Capacitance	C_J	$V_R=0\text{V}; f=1\text{MHz}$ I/O pin to I/O pin		0.6	0.8	pF
Junction Capacitance	C_J	$V_R=0\text{V}; f=1\text{MHz}$ I/O pin to GND		1.2	1.6	pF

Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ IT
IT	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F

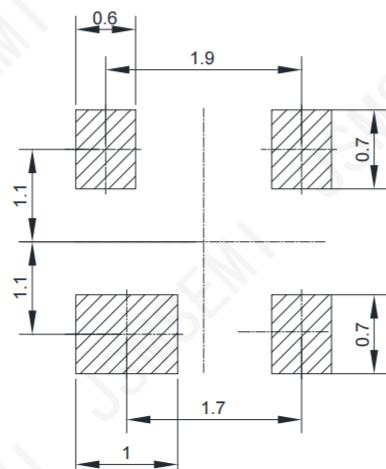


Dimension (SOT-143)



COMMON DIMENSIONS CUNITS MEASURE=MILLIMETER							
SYMBOL	MIN	TYP	MAX	SYMBOL	MIN	TYP	MAX
A	0.95	1.125	1.300	E	1.200	1.300	1.400
A1	0.00	0.050	0.100	E1	2.250	2.400	2.550
A2	0.900	1.050	1.200	e	0.950 TYP		
b	0.300	0.400	0.500	e1	1.800	1.900	2.000
b1	0.750	0.850	0.950	L	0.550 TYP		
c	0.080	0.115	0.150	L1	0.300	0.400	0.500
D	2.800	2.900	3.000	θ	0°	4°	8°
d	0.200 TYP						

Recommended Soldering Footprint



Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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