

LIN-bus ESD protection diode

Features

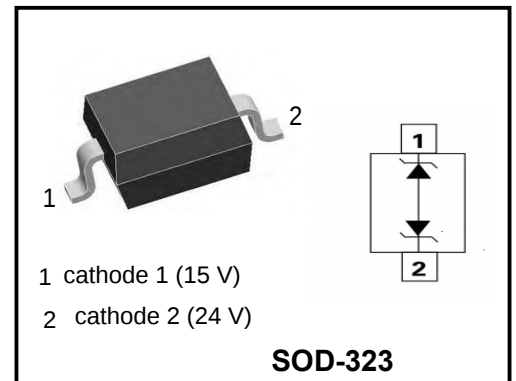
- ◆160W peak pulse power (8/20μs)
- ◆Low operating :15V and 24V
- ◆Ultra low capacitance: 13pF Typ
- ◆Ultra low leakage: nA leel
- ◆Low clamping voltage
- ◆Protects onepower line or data line
- ◆Complies with following standards:
- ◆-IEC 61000-4-2 (ESD) immunity test
Air discharge: ±25kV
Contact discharge: ±23kV
- ◆-IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆RoHS Compliant

Mechanical Characteristics

- ◆Package: SOD-323
- ◆Lead Finish: Matte Tin
- ◆Case Material: “Green” Molding Compound.
- ◆UL Flammability Classification Rating 94V-0
- ◆Moisture Sensitivity:Level 3 per J-STD-020
- ◆Terminal Connections: See Diagram Below

Applications

- ◆USB 2.0 power and data line
- ◆Set-top box and digital TV
- ◆LIN BUS



Marking Code	
PESD1LIN	AM

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

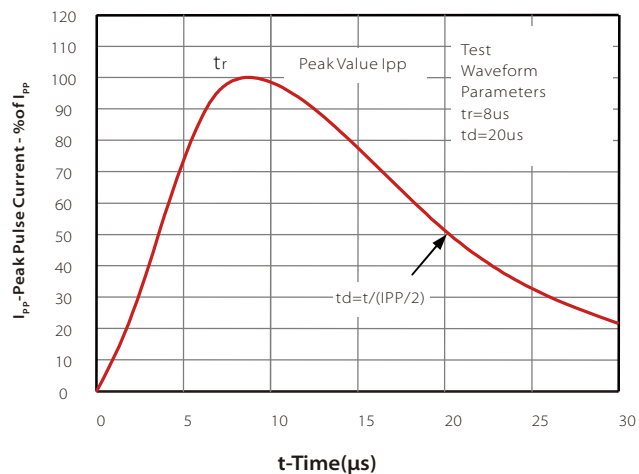
Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	±25	kV
		±23	kV
Peak Pulse Power (8/20μs)	P_{pk}	160	W
Operating Temperature Range	T_J	-55+125	°C
Storage Temperature Range	T_{stg}	-55+150	°C

Electrical Characteristics($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

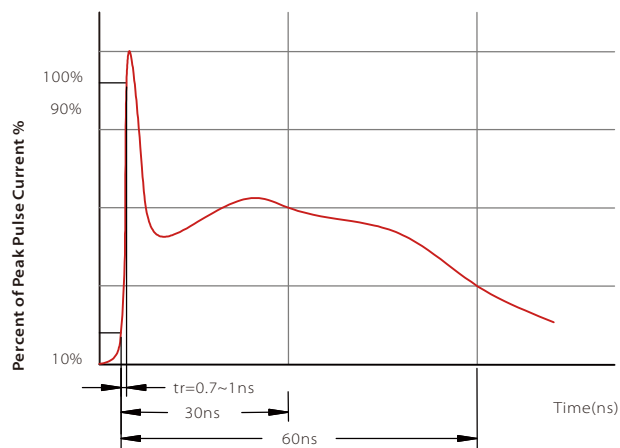
Parameter	Test Condition	Symbol	Min	Typ.	Max	Unit
Reverse Working Voltage		V_{RWM}	-	-	15	V
			-	-	24	
Breakdown Voltage	$I_T = 1\text{mA}$	V_{BR}	17.1	18.9	20.3	V
			25.4	27.8	30.3	
Reverse Leakage Current	$V_{RWM} = 15\text{V and } 24\text{V}$	I_R	-	-	0.05	uA
Clamping Voltage PESD1LIN (15 V)	PP = 1A (8 x 20us pulse)	V_C	-	-	25	V
	PP = 5A (8 x 20us pulse)		-	-	44	
Clamping Voltage PESD1LIN (24 V)	PP = 1A (8 x 20us pulse)	V_C	-	-	40	V
	$I_{PP} = 3\text{A}$ (8 x 20us pulse)		-	-	70	
Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_J	-	13	-	pF

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

8/20 μs Pulse Waveform



ESD Pulse Waveform (according to IEC 61000-4-2)



Ordering information

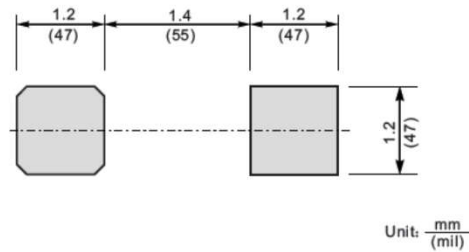
Package	Packing Description	Packing Quantity
SOD-323	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-323

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
C	0.08	0.15	3.1	5.9
D	1.2	1.4	47	55
E	1.4	1.8	63	70
E1	2.55	2.75	100	108
b	0.25	0.4	9.8	16
L1	0.2	0.45	7.9	16
A1	-	0.2	-	8
∠	9°			

The recommended mounting pad size



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