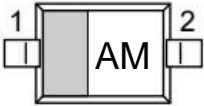





LIN-bus ESD protection diode

SOD323

Schematic & Pin configuration

Simplified outline	Graphic symbol	Pinning
		<p>Pin1 cathode 1 (15 V) Pin2 cathode 2 (24 V)</p>

General description

PESD1LIN in a very small SOD323 (SC-76) Surface-Mounted Device (SMD) plastic package designed to protect one automotive Local Interconnect Network (LIN) bus line from the damage caused by ElectroStatic Discharge (ESD) and other transients.

Features and benefits

- ESD protection of one automotive LIN-bus line
- Asymmetrical diode configuration ensures an optimized protection against ElectroMagnetic Interferences (EMI) of a LIN Electronic Control Unit (ECU)
- Max. peak pulse power: $P_{PP} = 188W @ t_p = 8/20\mu s$
- Low clamping voltage: $V_{CL} = 25 V @ I_{PP} = 5A$
- Ultra low leakage current: $I_{RM} < 10 nA$
- ESD protection of up to 23 kV
- IEC 61000-4-2, level 4 (ESD)
- IEC 61000-4-5 (surge); $I_{PP} = 5 A @ t_p = 8/20\mu s$

Application information

- LIN-bus protection
- Automotive applications

Ordering information

Par Number	Package	Marking code	Packaging	Reel Size
PESD1LIN	SOD323	AM	3000/Tape & Reel	7 inch

Maximum Ratings ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

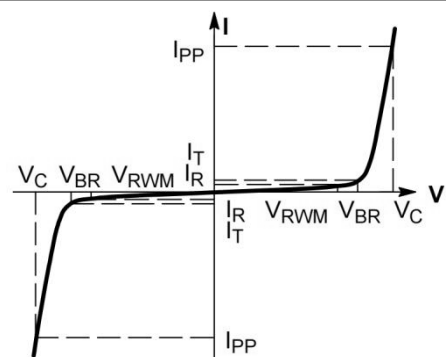
Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{Pk}	188	W
Peak Pulse Current($t_p = 8/20\mu\text{s}$)	I_{PP}	5	A
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	25	KV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	23	KV
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating Temperature Range	T_{OP}	-40 to +85	$^\circ\text{C}$

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

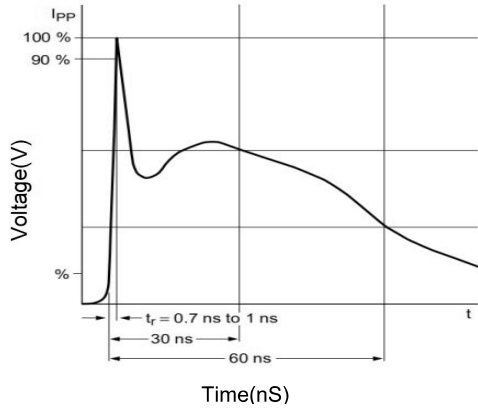
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	15	V	Pin1 To Pin2
		--	--	24	V	Pin2 To Pin1
Breakdown Voltage	V_{BR}	17.5	18.5	19.5	V	Pin1 To Pin2, $I_T=1\text{mA}$
		26.5	28.2	29.5	V	Pin2 To Pin1, $I_T=1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	50	nA	Pin1 To Pin2, $V_R=15\text{V}$
		--	--	50	nA	Pin2 To Pin1, $V_R=24\text{V}$
Clamping Voltage	V_C	--	25	27	V	Pin1 To Pin2, $I_{PP}=5\text{A}, t_p=8/20\mu\text{s}$
Clamping Voltage	V_C	--	45	47	V	Pin2 To Pin1, $I_{PP}=4\text{A}, t_p=8/20\mu\text{s}$
Junction Capacitance	C_J	--	10	15	pF	$V_R=0\text{V}, f=1\text{MHz}$

Portion Electronics Parameter

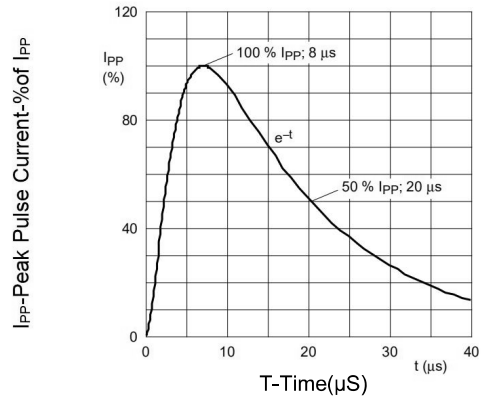
Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ IPP
V_{RWM}	Working Peak Reverse Voltage
I_R	Reverse Leakage Current @ VRWM
V_{BR}	Breakdown Voltage @ I_T
I_T	VBR Test Current



Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



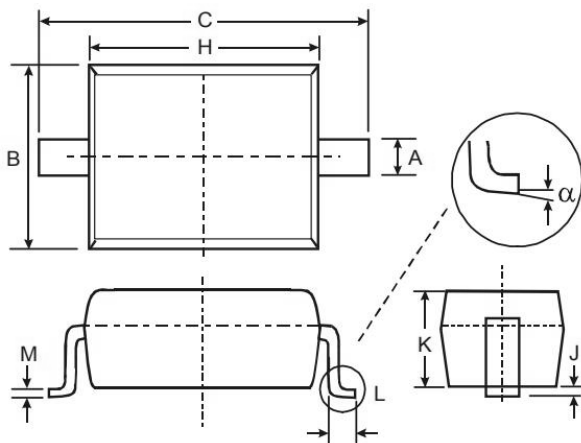
IEC61000-4-2 Pulse Waveform



IEC61000-4-5 8X20μS Pulse Waveform

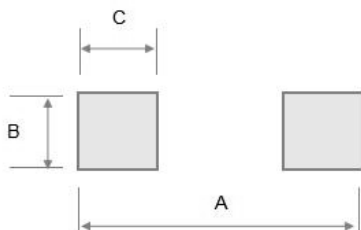
Package Outline Dimensions (mm)

SOD323



SYMBOL	DIMENSIONS	
	MIN	MAX
A	0.25	0.40
B	1.20	1.40
C	2.35	2.75
H	1.50	1.80
J	0.01	0.15
K	0.75	1.05
L	0.20	0.40
M	0.08	0.25
α	0°	8°

Soldering Footprint (mm)



SYMBOL	DIMENSIONS
A	3.20
B	0.80
C	0.80