

Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

The LBD32C1524L01 is designed to protect one automotive LIN bus line from the damage caused by ElectroStatic Discharge(ESD) and other transients.

They offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs. They are designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), lightning, electrical fast transients (EFT), and cable discharge events (CDE).

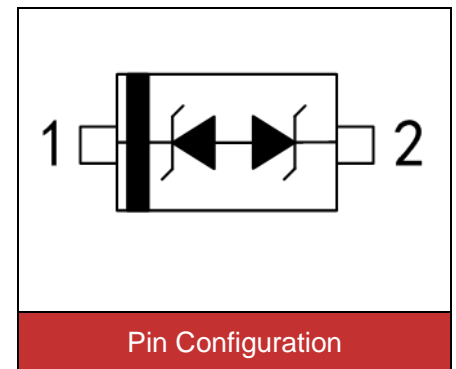


Contact : ±8kV
Air : ±15kV



Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD-323 surface mount package
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270°C
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: B OX



Applications

- LIN bus protection
- Automotive applications

Maximum Ratings

Rating	Symbol	Value	Unit
ESD voltage (Contact discharge)	V_{ESD}	±8	kV
ESD voltage (Air discharge)		±15	
Storage & operating temperature range	T_{STG}, T_J	-55~+150	°C

Electrical Characteristics ($T_J=25^\circ\text{C}$)

Pin1 to Pin2

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				15	V
Reverse breakdown voltage	V_{BR}	$I_{BR}=1\text{mA}$	16.5			V
Reverse leakage current	I_R	$V_R=15\text{V}$			1	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=5\text{A}$			44	V
Off state junction capacitance	C_J	$0\text{Vdc}, f=1\text{MHz}$		13	20	pF

Pin2 to Pin1

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				24	V
Reverse breakdown voltage	V_{BR}	$I_{BR}=1\text{mA}$	25.4			V
Reverse leakage current	I_R	$V_R=24\text{V}$			1	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=3\text{A}$			70	V
Off state junction capacitance	C_J	$0\text{Vdc}, f=1\text{MHz}$		13	20	pF

Typical Characteristics Curves

Figure 1. Pulse Waveforms

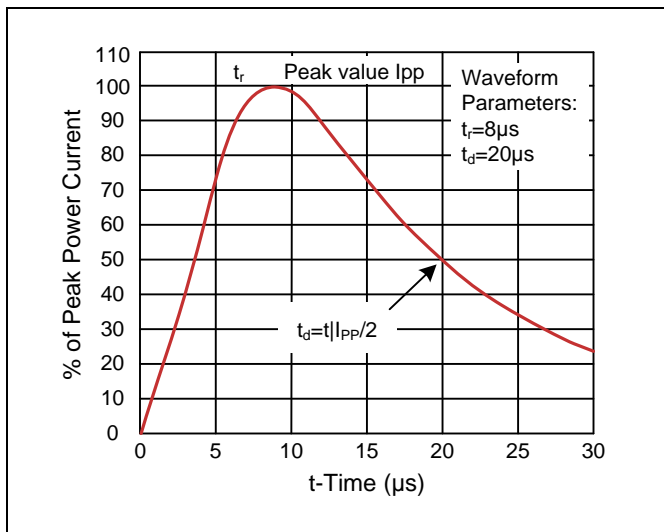
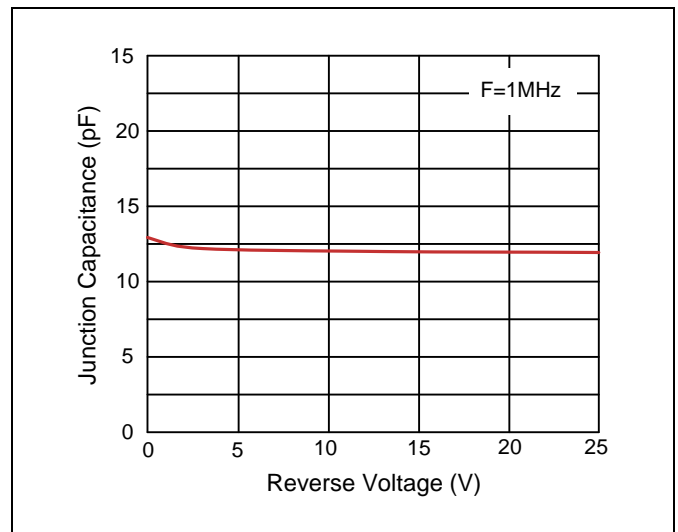


Figure 2. Capacitance vs. Reverse Voltage



Dimensions (SOD-323)

	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
	A	0.80	1.10	0.031
B	-	0.10	-	0.004
C	0.20	-	0.008	-
D	0.11	0.20	0.004	0.008
E	1.15	1.35	0.045	0.053
F	-	0.35	-	0.014
G	1.60	1.80	0.063	0.071
H	2.40	2.60	0.094	0.102

Packaging

<p>Tape</p>	Symbol	Dimension (mm)
	W	8.00±0.30
	P0	4.00±0.10
	P1	4.00±0.10
	P2	2.00±0.10
	D0	Φ1.55±0.10
	D1	Φ1.00±0.05
	E	1.75±0.10
	F	3.50±0.10
	A	1.48±0.10
	A0	0.80±0.10
	B	3.00±0.10
	B0	1.80±0.10
	K	1.05±0.10
t	0.25±0.05	
<p>Reel</p>	D	Φ178.0±2.0
	D2	Φ13.0
	W1	9.5
	Quantity: 3000PCS	