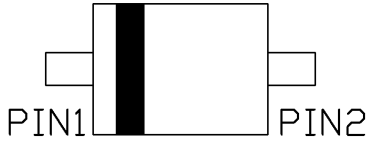
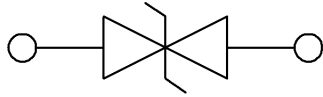


LIN bus ESD protection diode



SOD323

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Protects One Data Line of LIN
- Max Peak Pulse Power 160 W (tp=8/20 us)
- Low Clamping Voltage
- IEC 61000-4-2, level 4 (ESD)
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- Automotive LIN-bus protection
- Asymmetrical diode configuration ensures an optimized protection against ElectroMagnetic Interferences (EMI) of a LIN Electronic Control Unit (ECU)

Mechanical Data

- **Case:** SOD323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** AM

■ Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Peak Pulse Power per Line (tp=8/20 us) (Note1)	P _{PP}	W	160
Peak Pulse Current per Line (tp=8/20 us), Pin1 to Pin2 (Note1)	I _{PP}	A	5
Peak Pulse Current per Line (tp=8/20 us), Pin2 to Pin1 (Note1)			3
Storage Temperature Range	T _{stg}	°C	-55~+150
Junction Temperature	T _J	°C	-55~+150
Human Body Model (HBM)	V _{ESD}	KV	10
IEC 61000-4-2 (contact discharge)		KV	20

Note1: Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC 61000-4-5.



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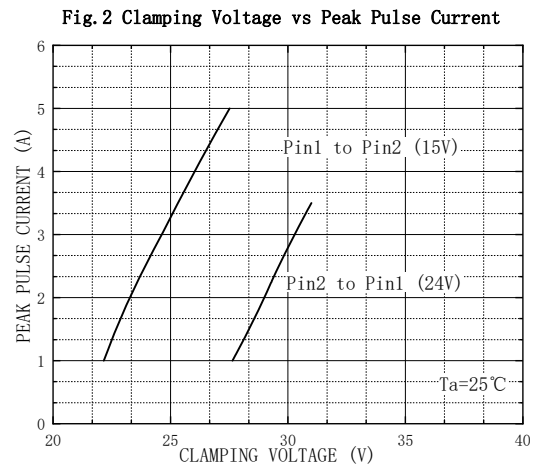
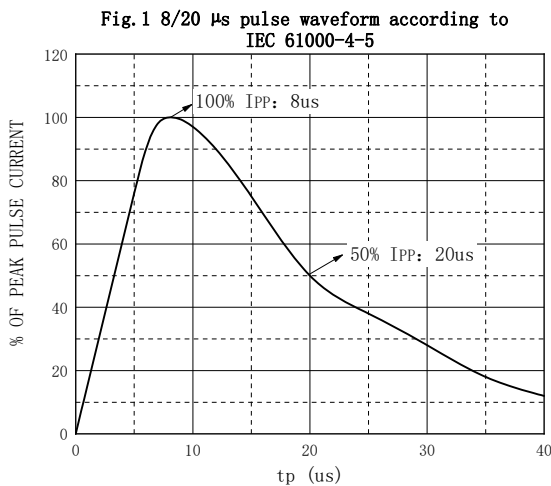
■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Reverse Working Voltage	V_{RWM}	V	Pin1 to Pin2 (15V)	-		15
			Pin2 to Pin1 (24V)			24
Reverse Breakdown Voltage	V_{BR}	V	$I_T=1mA$, Pin1 to Pin2 (15V)	17.1		20.3
			$I_T=1mA$, Pin2 to Pin1 (24V)	25.4		30.3
Reverse Leakage Current	I_R	nA	$V_{RWM}=15V$, Pin1 to Pin2 (15V)	-		50
			$V_{RWM}=24V$, Pin2 to Pin1 (24V)	-		50
Clamping Voltage (8/20us Pulse)	V_C	V	$I_{PP}=1A$, Pin1 to Pin2 (15V)	-		25
			$I_{PP}=5A$, Pin1 to Pin2 (15V)	-		35
	V_C	V	$I_{PP}=1A$, Pin2 to Pin1 (24V)	-		40
			$I_{PP}=3A$, Pin2 to Pin1 (24V)	-		50
Junction Capacitance	C_j	pF	$V_{BR}=0V$, $f=1MHz$, Pin1 to Pin2 (15V)	-		30
			$V_{BR}=0V$, $f=1MHz$, Pin2 to Pin1 (24V)	-		30

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDLIN1524D3Q	F2	Approximate 0.0045	3000	30000	120000	7" reel

■ Characteristics (Typical)





ESDLIN1524D3Q

Fig. 3 Temperature Power Dissipation Derating

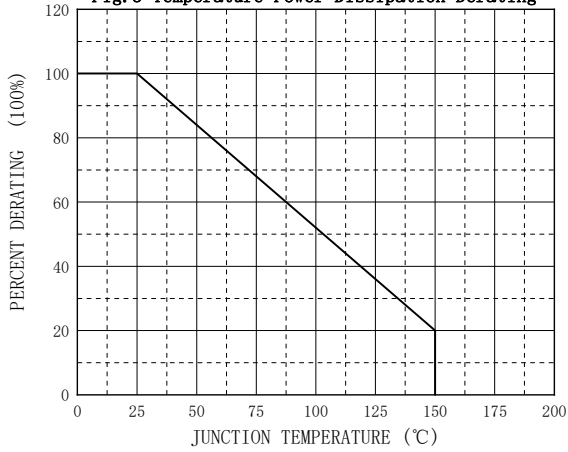


Fig. 4 Peak pulse power as a function of exponential pulse duration

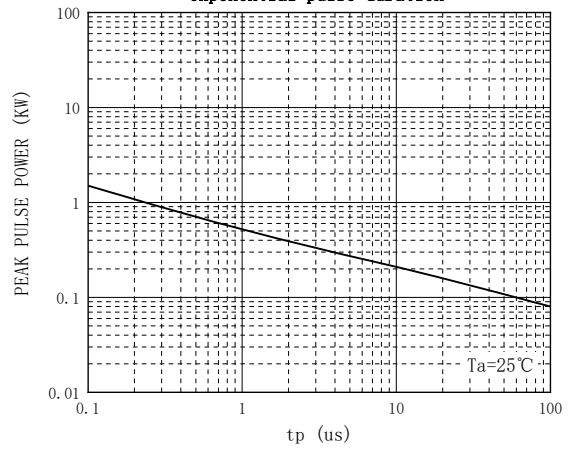
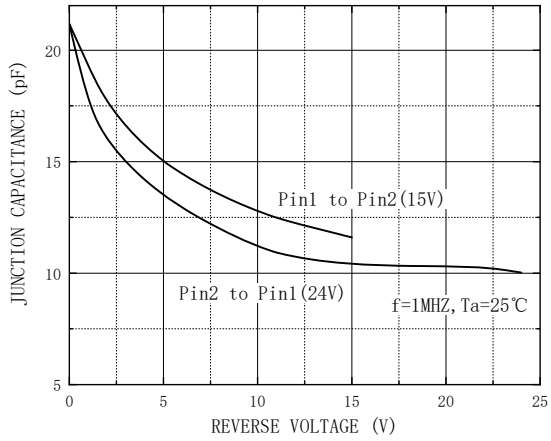


Fig. 5 Typical Junction Capacitance vs Reverse Voltage

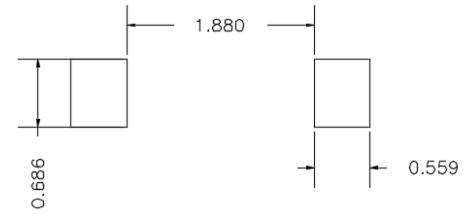
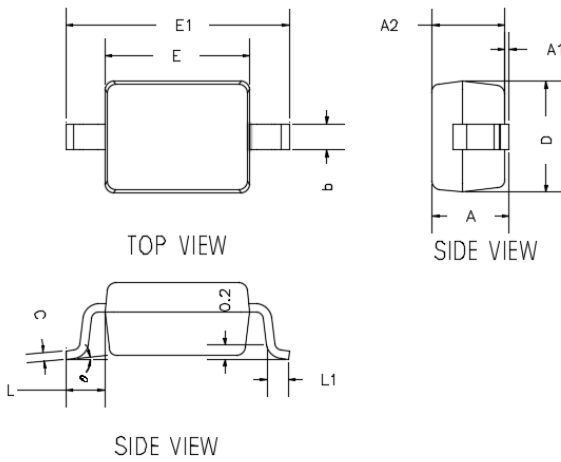




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■ Outline Dimensions

SOD-323



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
e	0°	8°	0°	8°

■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. AM is Marking Code
4. Body color: Black



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ISSUE	REVISION	DATE
1.0	Add Datasheet	12-Jun-20
1.1	Add IEC 61000-4-2 (contact discharge) 20KV	08-Aug-20
1.2	Review Tj max =150°C	04-Jun-21
1.3	Update value of CJ max,update fig.2 and fig.5 ,add marking information,update pod	06-May-22
1.4	Update fig.5	19-May-22