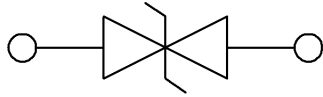


LIN bus ESD protection diode



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 (T_a=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~+125
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		-
			$I_T=1mA$, Pin2 to Pin1 (24V)	25.4		-
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)	-		17
			$V_{BR}=0V$, $f=1MHZ$, Pin2 to Pin1 (24V)	-		17

■ 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 0.045	3000	30000	120000	7" reel

■ Characteristics (Typical)

Fig.1 8/20 μs pulse waveform according to IEC 61000-4-5

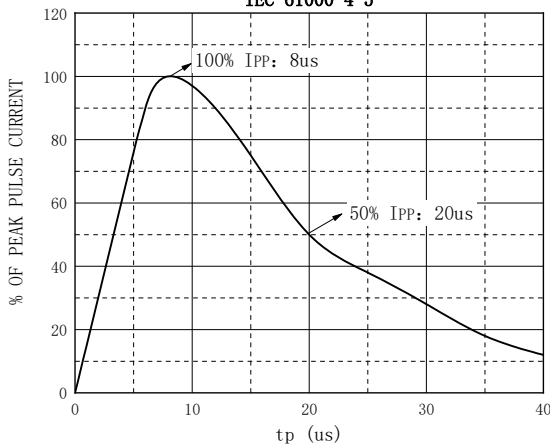
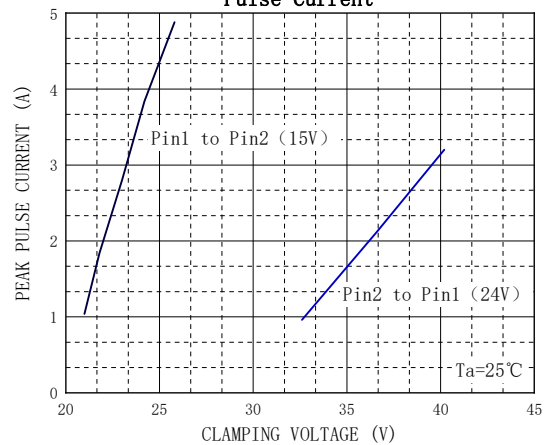


Fig.2 Clamping Voltage vs Peak Pulse Current





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Fig. 3 Temperature Power Dissipation Derating

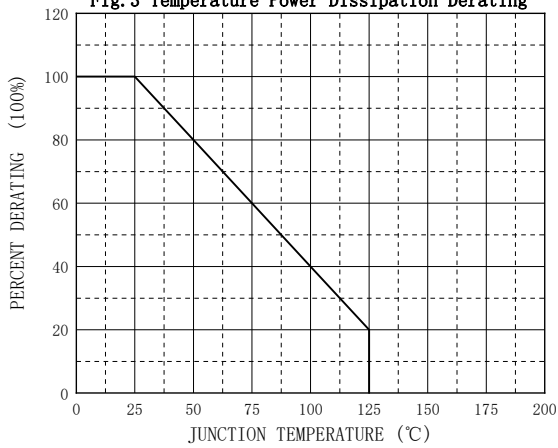


Fig. 4 Peak pulse power as a function of exponential pulse duration

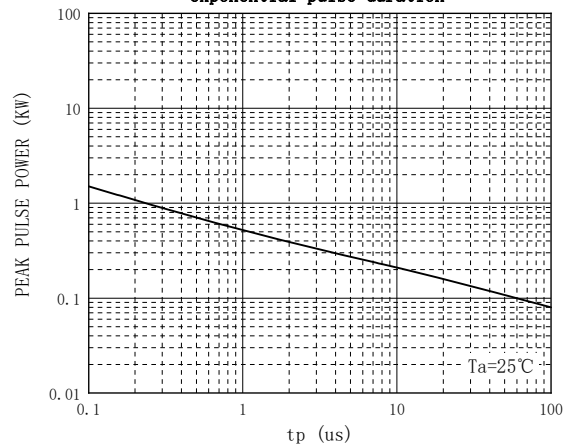
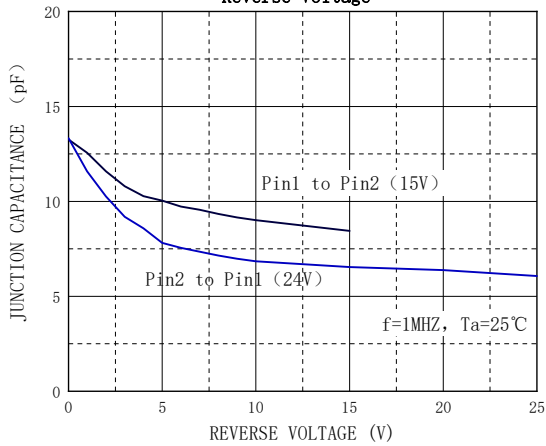
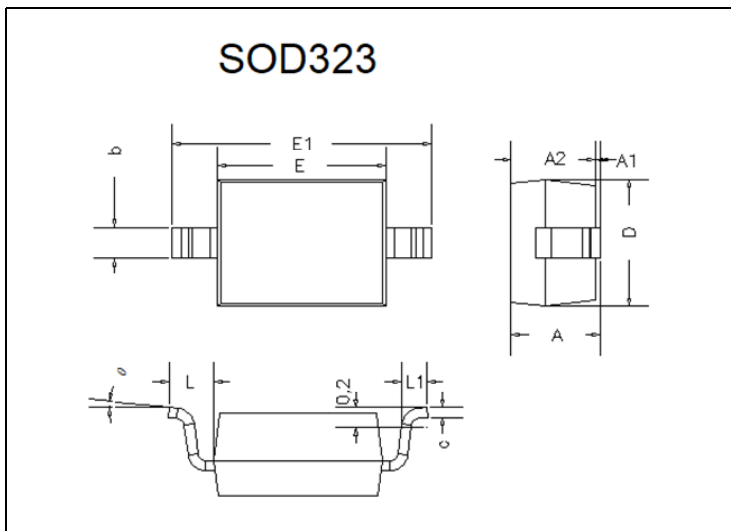


Fig. 5 Typical Junction Capacitance vs Reverse Voltage



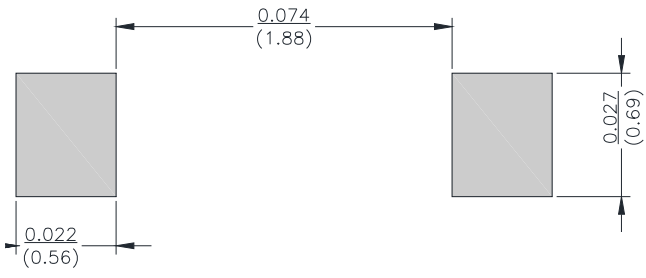
■ Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	-	0.039	-	1.00	
A1	0.000	0.004	0.00	0.10	
A2	0.031	0.035	0.80	0.90	
b	0.010	0.016	0.25	0.40	
c	0.003	0.007	0.08	0.17	
D	0.047	0.055	1.20	1.40	
E	0.063	0.071	1.60	1.80	
E1	0.098	0.106	2.50	2.70	
L	0.019REF		0.475REF		
L1	0.008	0.016	0.20	0.40	
θ	0°	8°	0°	8°	



■ Soldering Footprint



Unit: $\frac{\text{inch}}{\text{mm}}$



ESDLIN1524D3Q

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