

FEATURES

- | 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)
- | Meet AEC-Q101 Requirements

APPLICATIONS

- | LIN-bus protection
- | Automotive applications



SOD-323



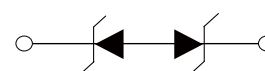
Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

- RoHS** | Compliance with 2011/65/EU
- HF** | Compliance with IEC61249-2-21:2003



Schematic Symbol

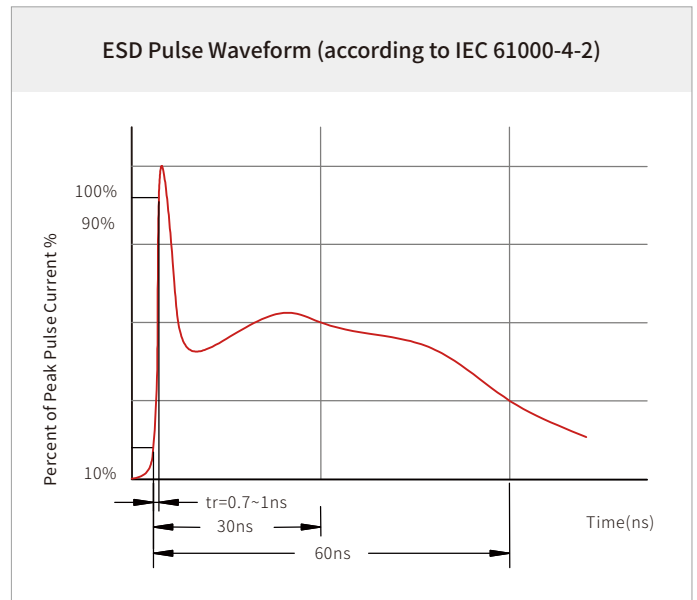
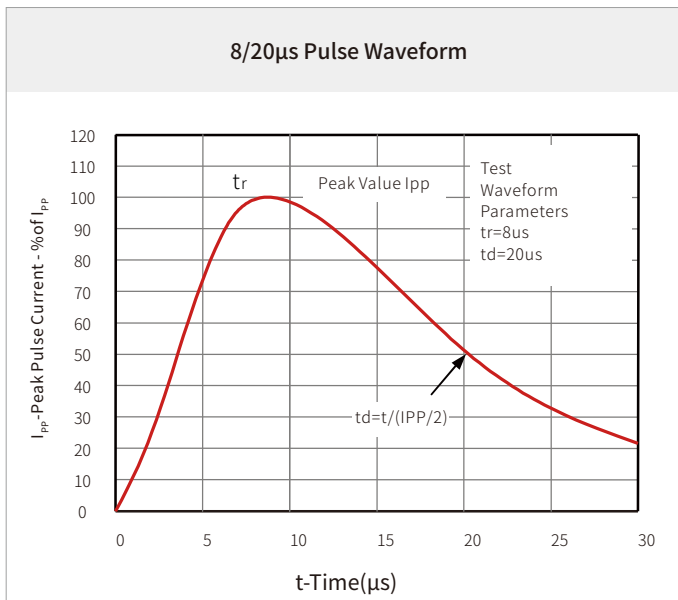
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power ($t_p=8/20\mu\text{s}$ waveform)	160	Watts
T_j	junction temperature	150	$^{\circ}\text{C}$
T_{amb}	ambient temperature	-65 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range	-65 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

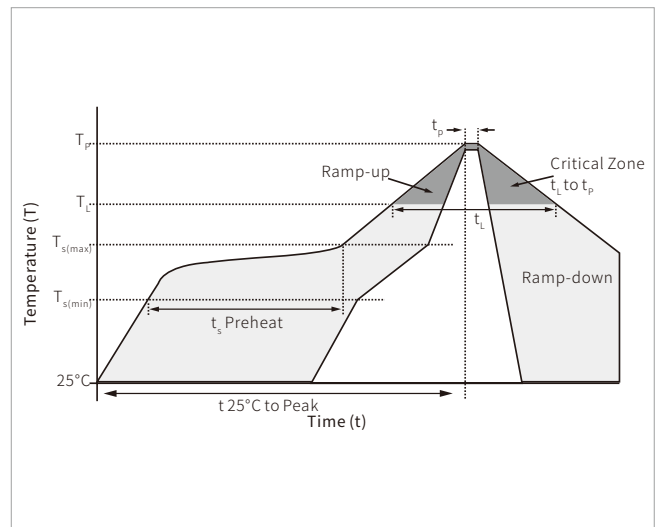
Symbol	Parameter		Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage	PESD1LIN (15 V)				15	V
		PESD1LIN (24 V)				24	
V_{BR}	Reverse Breakdown Voltage	PESD1LIN (15 V)	$I_T=5mA$	17.1	18.9	20.3	V
		PESD1LIN (24 V)				30.3	
I_R	Reverse Leakage Current	PESD1LIN (15 V)	$V_{RWM}=15V$		< 1	50	nA
		PESD1LIN (24 V)	$V_{RWM}=24V$			50	
V_C	Clamping Voltage	PESD1LIN (15 V)	$I_{PP}=1A, t_p=8/20\mu s$			25	V
			$I_{PP}=5A, t_p=8/20\mu s$			44	
V_C	Clamping Voltage	PESD1LIN (24 V)	$I_{PP}=1A, t_p=8/20\mu s$			40	V
			$I_{PP}=3A, t_p=8/20\mu s$			70	
rdif	Differential resistance	PESD1LIN (15 V)	$I_R = 1\text{ mA}$			225	Ω
		PESD1LIN (24 V)	$I_R = 1\text{ mA}$			300	
C_J	Diode capacitance		$V_R=0V, f=1MHz$		13	17	pF

CHARACTERISTIC CURVES

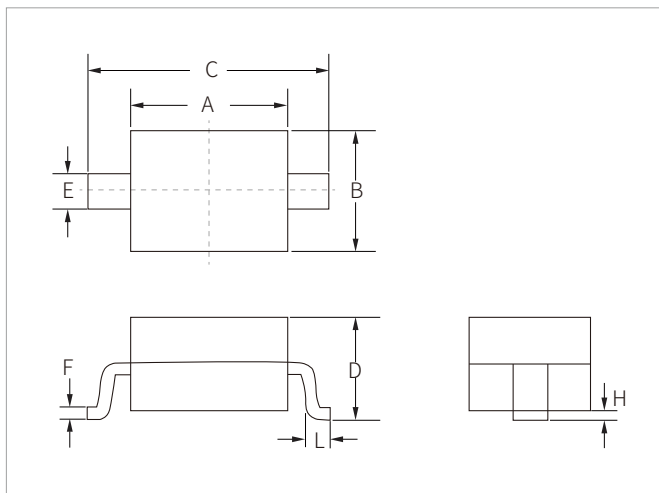


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

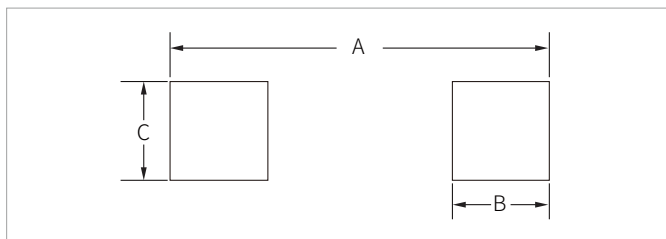


SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.35	2.75	0.093	0.108
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	0.40	0.008	0.016

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
PESD1LIN	SOD-323	3000PCS	7"

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