

## 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

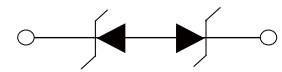
- | LIN-bus protection
- | Automotive applications



SOD-323



Marking



Schematic Symbol

## IEC COMPATIBILITY

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

## APPROVALS

- |             |                                    |
|-------------|------------------------------------|
| <b>RoHS</b> | Compliance with 2011/65/EU         |
| <b>HF</b>   | Compliance with IEC61249-2-21:2003 |

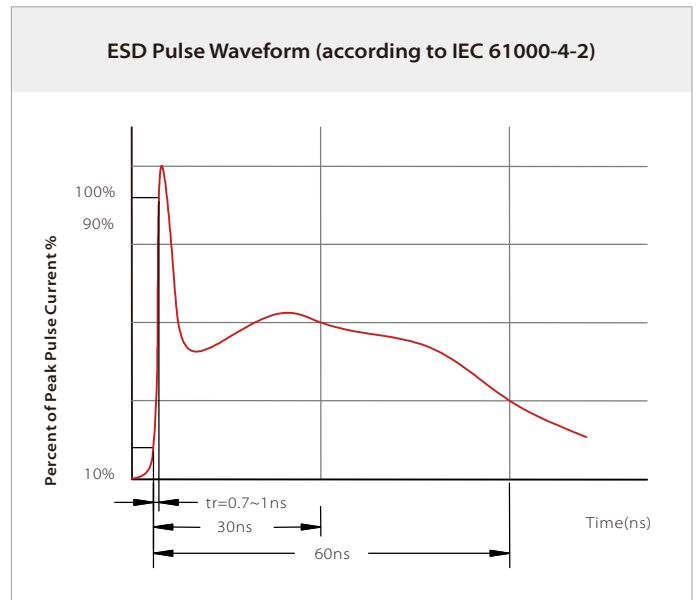
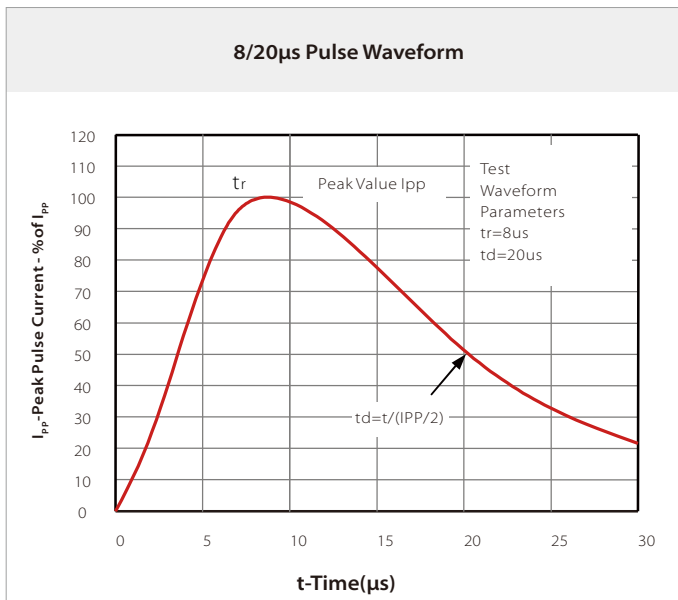
## THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
$P_{pp}$	Peak Pulse Power (tp=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

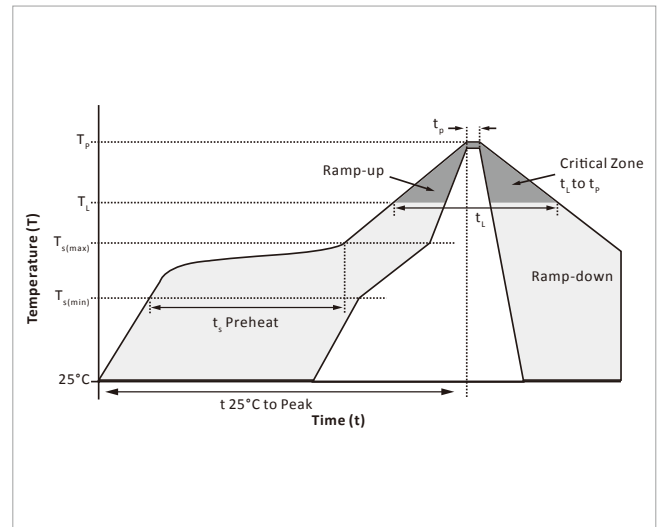
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit	
$V_{RWM}$	Reverse Stand-off Voltage	PESD1LIN (15V)			15	V	
		PESD1LIN (24V)			24		
$V_{BR}$	Reverse Breakdown Voltage	PESD1LIN (15V)	$I_T=5mA$	17.1	18.9	20.3	V
		PESD1LIN (24V)		25.4	27.8	30.3	
$I_R$	Reverse Leakage Current	PESD1LIN (15V)	$V_{RWM}=15V$	< 1	50	nA	
		PESD1LIN (24V)	$V_{RWM}=24V$	< 1	50		
$V_C$	Clamping Voltage (Tp=8/20us)	PESD1LIN (15V)	$I_{pp}=1A, tp=8/20us$		25	V	
			$I_{pp}=5A, tp=8/20us$		44		
$V_C$	Clamping Voltage (Tp=8/20us)	PESD1LIN (24V)	$I_{pp}=1A, tp=8/20us$		40	V	
			$I_{pp}=3A, tp=8/20us$		70		
rdif	Differential resistance	PESD1LIN (15V)	$I_R = 1 mA$		225	$\Omega$	
		PESD1LIN (24V)	$I_R = 1 mA$		300		
$C_J$	Diode capacitance	$V_R=0V, f=1MHz$		13	17	pF	

## CHARACTERISTIC CURVES

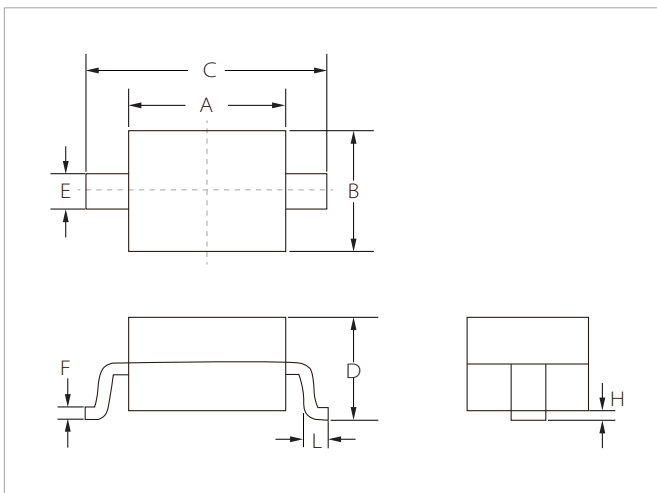


## SOLDERING PARAMETERS

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) ( $t_p$ )	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

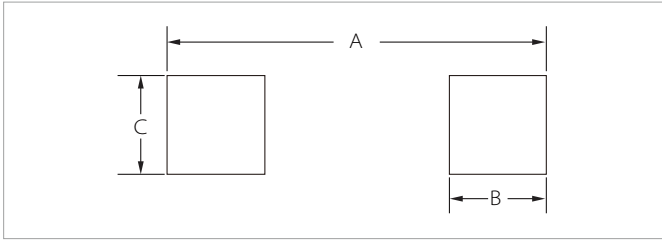


## SOD-323 PACKAGE INFORMATION



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	2.39	2.75	0.094	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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