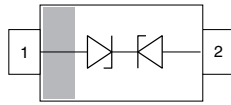
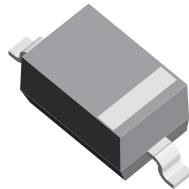


# Low Capacitance, Single-Line ESD-Protection Diode in SOD-323



20503



22756 SOD-323

**MARKING** (example only)


XYZ = type code (see table below)  
bar = pin 1

**FEATURES**

- For LIN-Bus applications
- Small SOD-323 package
- Working range: -16 V; +26.5 V
- Low leakage current  $I_R < 0.05 \mu\text{A}$
- Low load capacitance  $C_D < 18 \text{ pF}$
- ESD-protection acc. IEC 61000-4-2  
± 30 kV contact discharge  
± 30 kV air discharge
- ESD capability according to AEC-Q101:  
human body model: class H3B: > 8 kV
- e3 - pins plated with tin (Sn)
- 1-line ESD-protection
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

ORDERING INFORMATION							
PART NUMBER (EXAMPLE)	ENVIRONMENTAL AND QUALITY CODE				PACKAGING CODE		ORDERING CODE (EXAMPLE)
	AEC-Q101 QUALIFIED	RoHS-COMPLIANT + LEAD (Pb)-FREE TERMINATIONS		TIN PLATED	3K PER 7" REEL (8 mm TAPE) 15K/BOX = MOQ	10K PER 13" REEL (8 mm TAPE) 10K/BOX = MOQ	
		STANDARD	GREEN				
VLIN1626-02G	-	E	-	3	-08	-	VLIN1626-02G-E3-08
VLIN1626-02G	H	E	-	3	-08	-	VLIN1626-02GHE3-08
VLIN1626-02G	-	E	-	3	-	-18	VLIN1626-02G-E3-18
VLIN1626-02G	H	E	-	3	-	-18	VLIN1626-02GHE3-18

PACKAGE DATA						
DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
VLIN1626-02G	SOD-323	6A1	4.30 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Peak pulse current	Pin 1 to pin 2; $T_A = 25 \text{ }^\circ\text{C}$ , acc. IEC 61000-4-5; $t_p = 8/20 \mu\text{s}$ ; single	$I_{PPM}$	6	A
	Pin 2 to pin 1; $T_A = 25 \text{ }^\circ\text{C}$ , acc. IEC 61000-4-5; $t_p = 8/20 \mu\text{s}$ ; single		4	
Peak pulse power	$T_A = 25 \text{ }^\circ\text{C}$ , acc. IEC 61000-4-5; $t_p = 8/20 \mu\text{s}$ ; single shot	$P_{PP}$	200	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses, $T_A = 25 \text{ }^\circ\text{C}$	$V_{ESD}$	± 30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses, $T_A = 25 \text{ }^\circ\text{C}$		± 30	
Operating temperature	Junction temperature	$T_J$	-55 to +150	°C
Storage temperature		$T_{STG}$	-55 to +150	



ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITIONS / REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	N <sub>channel</sub>	-	-	1	lines
Reverse stand-off voltage	Pin 1 to pin 2; max. reverse working voltage	V <sub>RWM</sub>	-	-	16	V
	Pin 2 to pin 1; max. reverse working voltage		-	-	26.5	
Reverse voltage	Pin 1 to pin 2; at I <sub>R</sub> = 0.05 μA	V <sub>R</sub>	16	-	-	V
	Pin 2 to pin 1; at I <sub>R</sub> = 0.05 μA		26.5	-	-	
Reverse current	Pin 1 to pin 2; at V <sub>RWM</sub> = 16 V	I <sub>R</sub>	-	-	0.05	μA
	Pin 2 to pin 1; at V <sub>RWM</sub> = 26.5 V		-	-	0.05	
Reverse breakdown voltage	Pin 1 to pin 2; at I <sub>R</sub> = 1 mA	V <sub>BR</sub>	17.1	18.7	20.3	V
	Pin 2 to pin 1; at I <sub>R</sub> = 1 mA		28	30	32	
Reverse clamping voltage	Pin 1 to pin 2; at I <sub>PP</sub> = 1 A; t <sub>p</sub> = 8/20 μs	V <sub>C</sub>	-	22	25	V
	Pin 1 to pin 2; at I <sub>PP</sub> = 6 A; t <sub>p</sub> = 8/20 μs		-	29	33	
	Pin 2 to pin 1; at I <sub>PP</sub> = 1 A; t <sub>p</sub> = 8/20 μs		-	32	40	
	Pin 2 to pin 1; at I <sub>PP</sub> = 4 A; t <sub>p</sub> = 8/20 μs		-	39	50	
Capacitance	At V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>D</sub>	-	15.5	18	pF

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

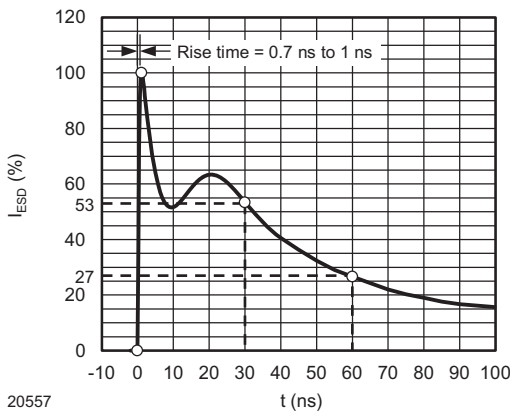


Fig. 1 - ESD Discharge Current Wave Form acc. IEC 61000-4-2 (330 Ω / 150 pF)

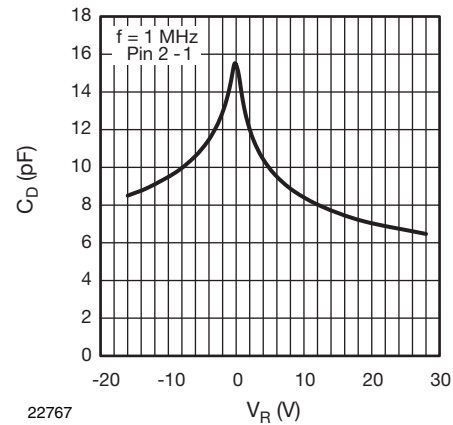


Fig. 3 - Typical Capacitance C<sub>D</sub> vs. Reverse Voltage V<sub>R</sub>

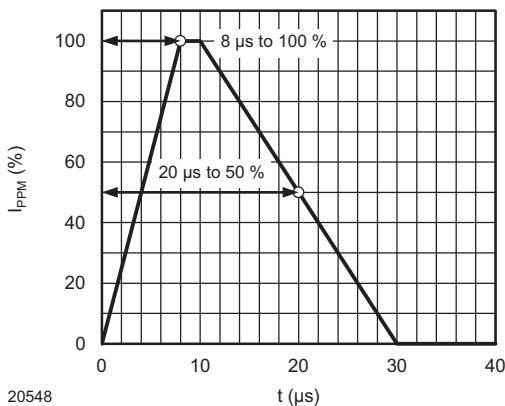


Fig. 2 - 8/20 μs Peak Pulse Current Wave Form acc. IEC 61000-4-5

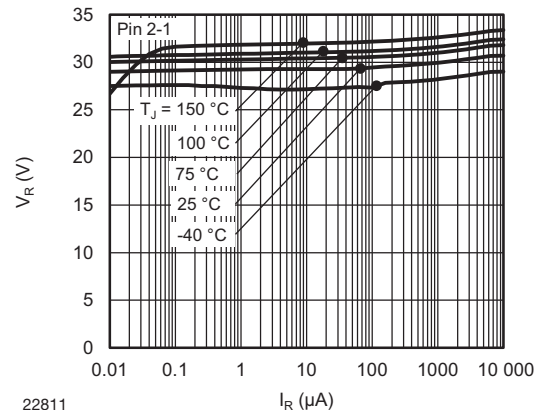
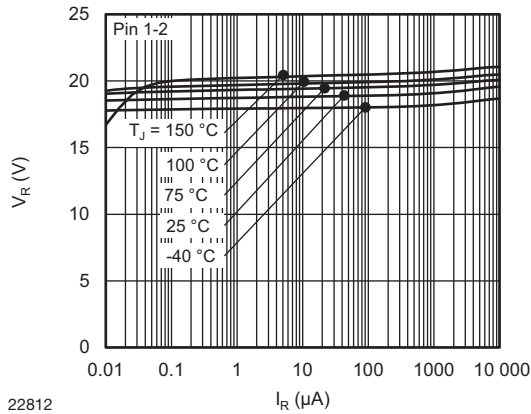
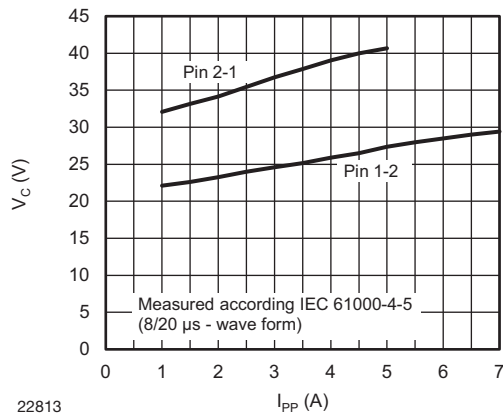


Fig. 4 - Typical Reverse Voltage V<sub>R</sub> vs. Reverse Current I<sub>R</sub>



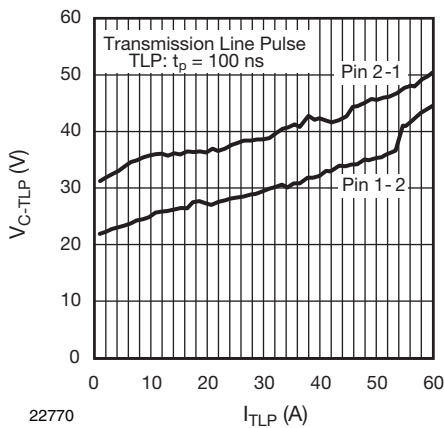
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Fig. 5 - Typical Reverse Voltage  $V_R$  vs. Reverse Current  $I_R$



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Fig. 6 - Typical Peak Clamping Voltage  $V_C$  vs. Peak Pulse Current  $I_{PP}$

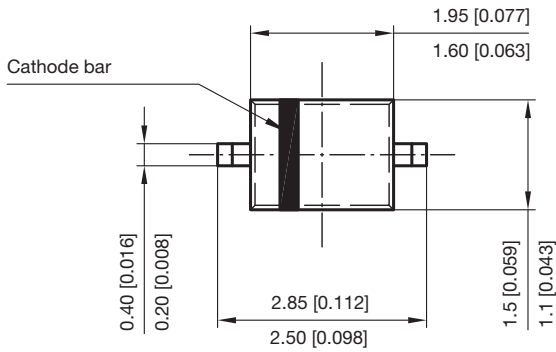
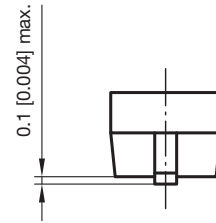
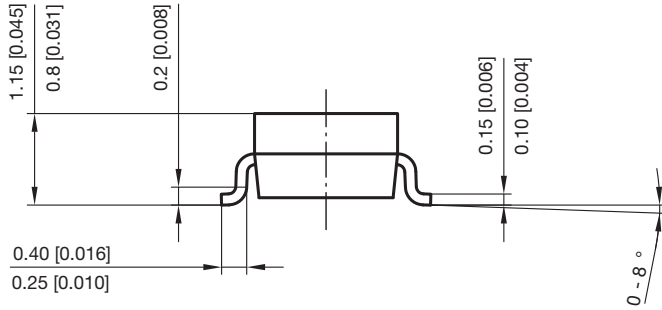


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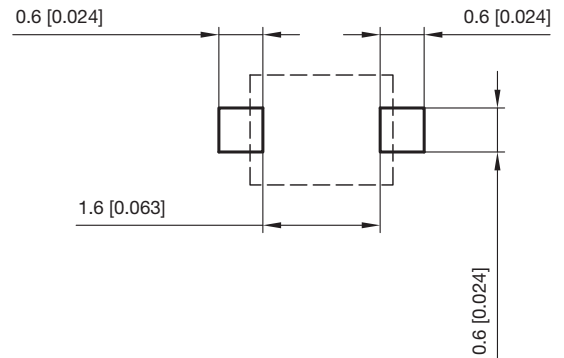
Fig. 7 - Typical Clamping Voltage  $V_{C-TLP}$  vs. Pulse Current  $I_{TLP}$



**PACKAGE DIMENSIONS** in millimeters (inches) **SOD-323**



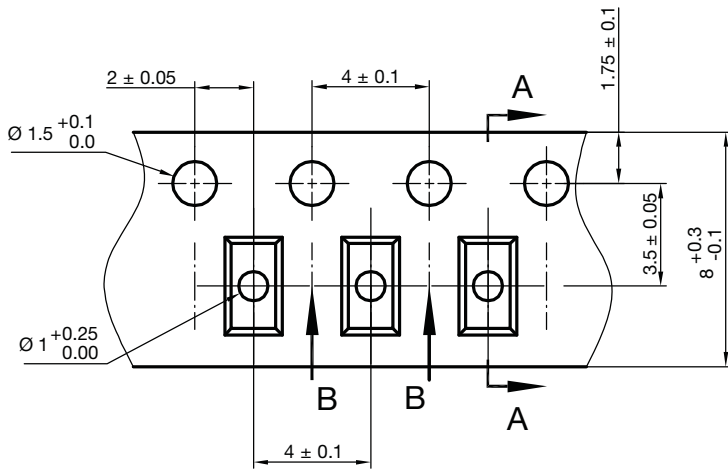
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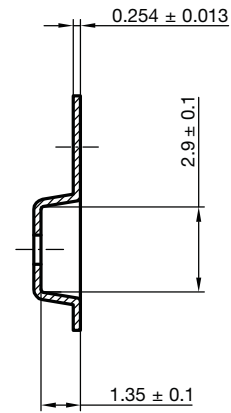
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 Rev. 5 - Date: 23.Sept.2009  
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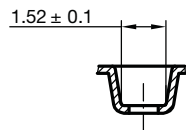
CARRIER TAPE SOD-323



A-A Section

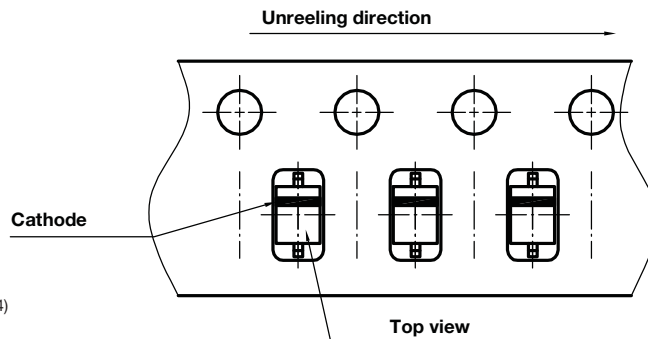


B-B Section



Document no.: S8-V-3717.07-002 (4)  
Created - Date: 09. Feb. 2010  
22824

ORIENTATION IN CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-003 (4)  
Created - Date: 09. Feb. 2010  
22772



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