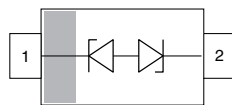
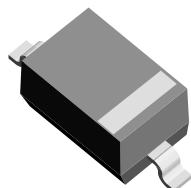


Low Capacitance, Single-Line ESD Protection Diode in SOD-323



20503



22756 SOD-323

MARKING (example only)



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

LINKS TO ADDITIONAL RESOURCES



3D Models

SPICE

Models

FEATURES

- For LIN-bus applications
- Small SOD-323 package
- 1-line ESD protection
- Working range: ± 16 V
- Low leakage current $I_R < 0.05 \mu A$
- Low load capacitance $C_D < 24$ 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)
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

ORDERING INFORMATION

PART NUMBER (EXAMPLE)	ENVIRONMENTAL AND QUALITY CODE			REVISION CODE	PACKAGING CODE		ORDERING CODE (EXAMPLE)
	AEC-Q101 QUALIFIED (H)	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	
VLIN1616-02G	-	E	3	-	08		VLIN1616-02G-E3-08
VLIN1616-02G	H	E	3	A	08		VLIN1616-02GHE3A08
VLIN1616-02G	-	E	3	-		18	VLIN1616-02G-E3-18
VLIN1616-02G	H	E	3	A		18	VLIN1616-02GHE3A18

PACKAGE DATA

DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
VLIN1616-02G	SOD-323	161	4 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	$T_A = 25$ °C; acc. IEC 61000-4-5; $t_p = 8/20$ μs ; single shot	I_{PPM}	6	A
Peak pulse power	$T_A = 25$ °C; acc. IEC 61000-4-5; $t_p = 8/20$ μs ; single shot	P_{PP}	200	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses; $T_A = 25$ °C	V_{ESD}	± 30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses; $T_A = 25$ °C		± 30	kV
Operating temperature	Junction temperature	T_J	-55 to +150	°C
Storage temperature		T_{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITIONS / REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	$N_{channel}$	-	-	1	lines
Reverse stand-off voltage	Max. reverse working voltage	V_{RWM}	-	-	16	V
Reverse voltage	At $I_R = 0.05\text{ }\mu\text{A}$	V_R	16	-	-	V
Reverse current	At $V_{RWM} = 16\text{ V}$	I_R	-	-	0.05	μA
Reverse breakdown voltage	At $I_R = 1\text{ mA}$	V_{BR}	17.1	18.6	20	V
Reverse clamping voltage	At $I_{PP} = 1\text{ A}$; $t_p = 8/20\text{ }\mu\text{s}$	V_C	-	22	25	V
	At $I_{PP} = I_{PPM} = 6\text{ A}$; $t_p = 8/20\text{ }\mu\text{s}$	V_C	-	29	33	V
Capacitance	At $V_R = 0\text{ V}$, $f = 1\text{ MHz}$	C_D	-	18	24	pF

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

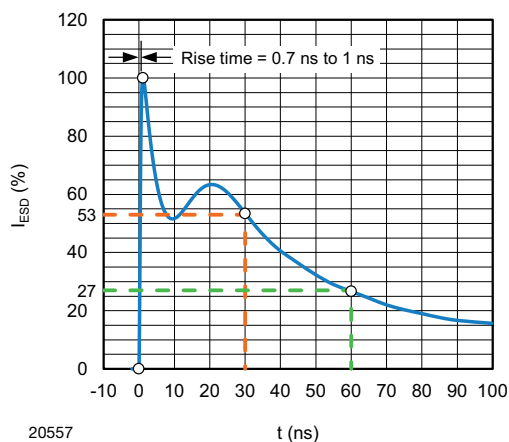


Fig. 1 - ESD Discharge Current Wave Form
acc. IEC 61000-4-2 (330 Ω / 150 pF)

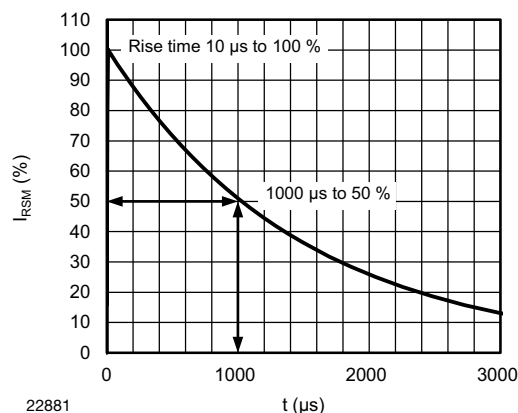


Fig. 3 - 10/1000 μs Peak Pulse Current Wave Form

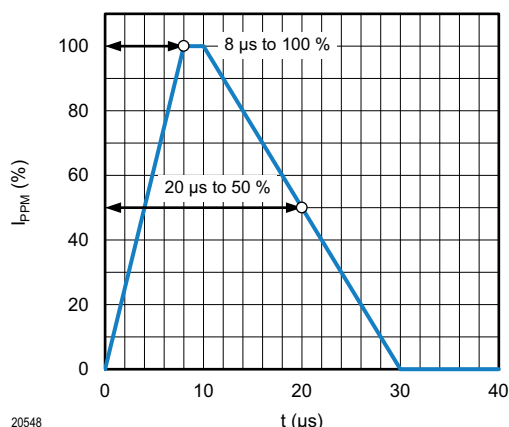


Fig. 2 - 8/20 μs Peak Pulse Current Wave Form
acc. IEC 61000-4-5

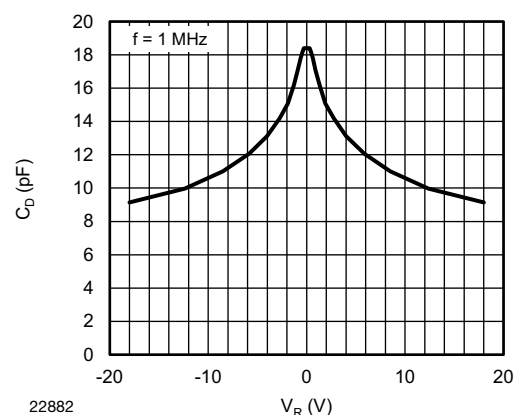
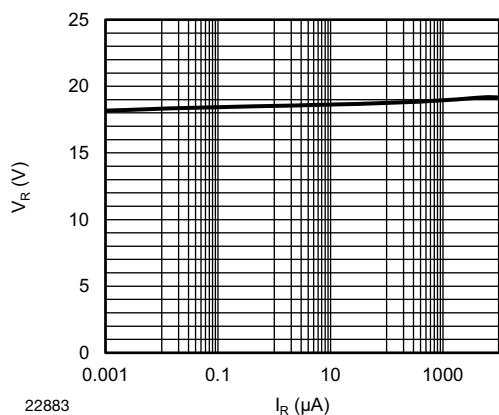
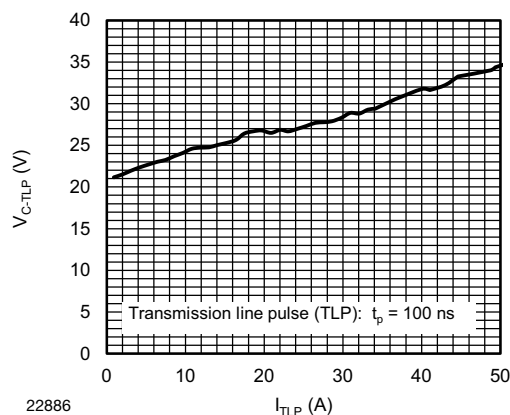
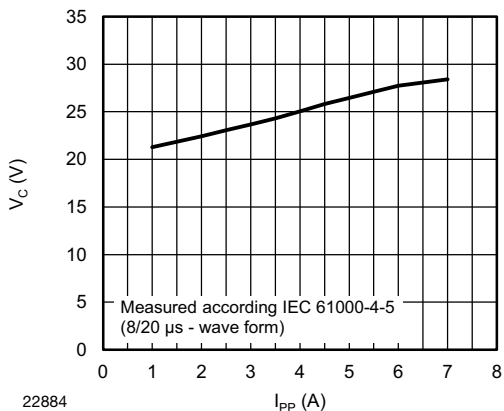
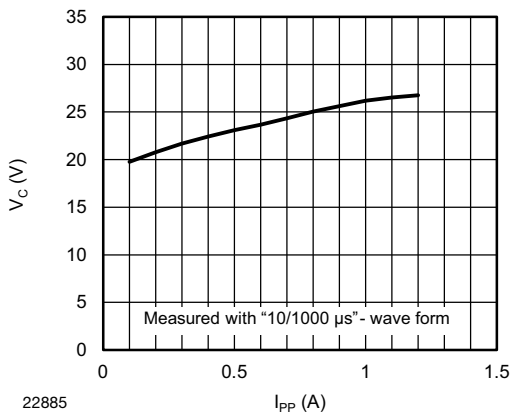
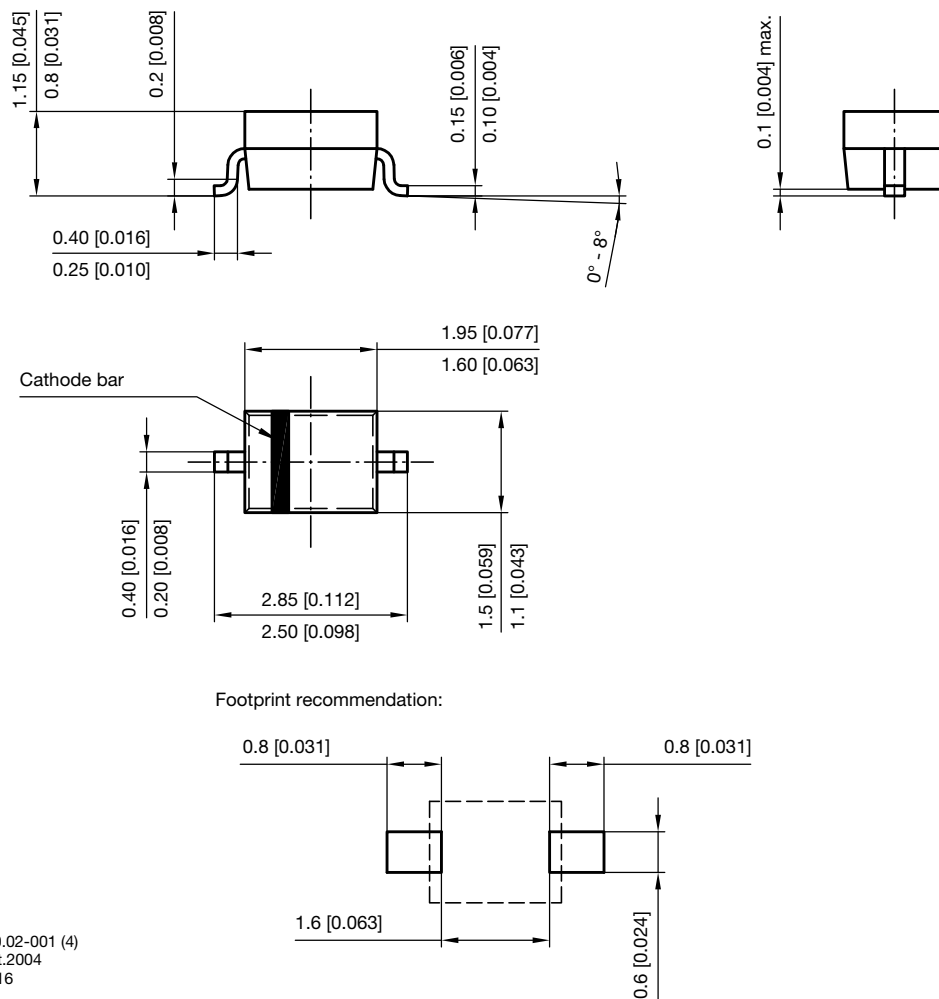


Fig. 4 - Typical Capacitance C_D vs. Reverse Voltage V_R


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

Fig. 8 - Typical Clamping Voltage V_{C-TLP} vs. Pulse Current I_{TLP}

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

Fig. 7 - Typical Peak Clamping Voltage vs. Peak Pulse Current (10/1000 μs)



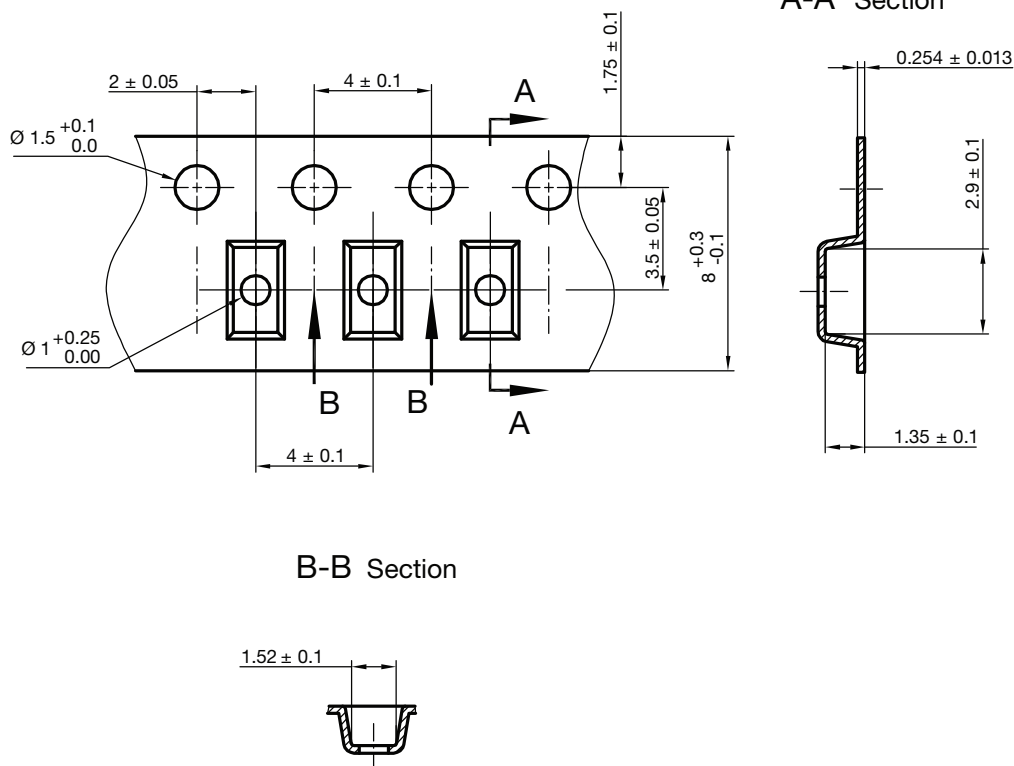
PACKAGE DIMENSIONS in millimeters (inches) **SOD-323**



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Rev. 6 - Date: 23.Sept.2016
22771

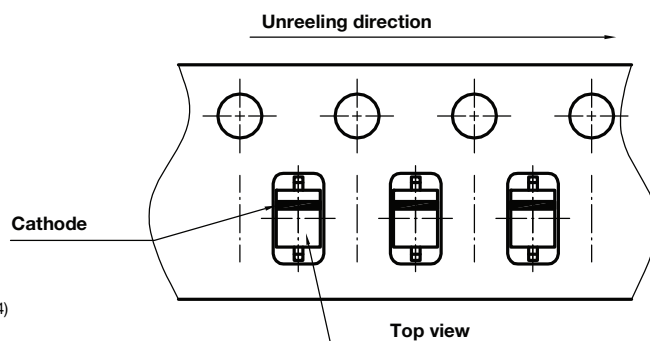


CARRIER TAPE SOD-323



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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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