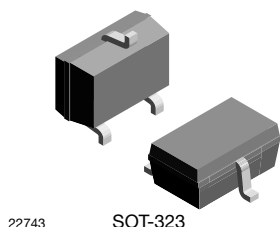
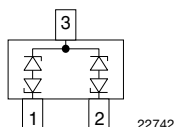


# Bidirectional Symmetrical (BiSy) Low Capacitance, Dual-Line ESD Protection Diode in SOT-323

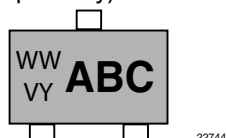


## FEATURES

- For CAN FD and FLEX-bus applications
- Small SOT-323 package
- 2-line ESD protection
- Working range  $\pm 26.5$  V
- Low leakage current  $I_R < 0.05$   $\mu$ A
- Low load capacitance  $C_D < 6$  pF at  $V_R = 5$  V
- ESD immunity acc. IEC 61000-4-2  $\pm 30$  kV contact discharge  $\pm 30$  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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

## MARKING (example only)



ABC = type code (see table below)

WW = date code working week

VY = date code year

## LINKS TO ADDITIONAL RESOURCES



## 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				
VCAN26C2-03G	-	E		3	-08		VCAN26C2-03G-E3-08
VCAN26C2-03G	H	E		3	-08		VCAN26C2-03GHE3-08
VCAN26C2-03G	-	E		3		-18	VCAN26C2-03G-E3-18
VCAN26C2-03G	H	E		3		-18	VCAN26C2-03GHE3-18

## PACKAGE DATA

DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
VCAN26C2-03G	SOT-323	26C	5.65 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; $t_p = 8/20$ $\mu$ s; single shot	$I_{PPM}$	2.5	A
Peak pulse power	$T_A = 25$ °C; pin 1 or 2 to pin 3; acc. IEC 61000-4-5; $t_p = 8/20$ $\mu$ s; single shot	$P_{PP}$	110	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses, $T_A = 25$ °C	$V_{ESD}$	$\pm 30$	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses, $T_A = 25$ °C		$\pm 30$	kV
	Contact discharge acc. ISO10605 330 pF / 330 $\Omega$ ; 10 pulses, $T_A = 25$ °C		$\pm 25$	kV
Operating temperature	Junction temperature	$T_J$	-55 to +175	°C
Storage temperature		$T_{STG}$	-55 to +175	°C

### ELECTRICAL CHARACTERISTICS (pin 1 to 3, 3 to 1, 2 to 3, or 3 to 2)

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

PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	N <sub>channel</sub>	-	-	2	lines
Reverse stand-off voltage	Max. reverse working voltage	V <sub>RWM</sub>	-	-	26.5	V
Reverse voltage	At I <sub>R</sub> = 0.05 μA	V <sub>R</sub>	26.5	-	-	V
Reverse current	At V <sub>RWM</sub> = 26.5 V	I <sub>R</sub>	-	-	0.05	μA
Reverse breakdown voltage	At I <sub>R</sub> = 1 mA	V <sub>BR</sub>	28	30	32	V
Reverse clamping voltage	At I <sub>PP</sub> 1 A; t <sub>p</sub> = 8/20 μs	V <sub>C</sub>	-	34	37	V
	At I <sub>PP</sub> = I <sub>PPM</sub> = 2.5 A; t <sub>p</sub> = 8/20 μs	V <sub>C</sub>	-	40	45	V
Capacitance	At V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>D</sub>	-	7.6	10	pF
	At V <sub>R</sub> = 5 V, f = 1 MHz	C <sub>D</sub>	-	5	6	pF
	Diode capacitance matching at V <sub>R</sub> = 5 V, C <sub>D13</sub> vs. C <sub>D23</sub>	dC <sub>D</sub>	-	-	2	%

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

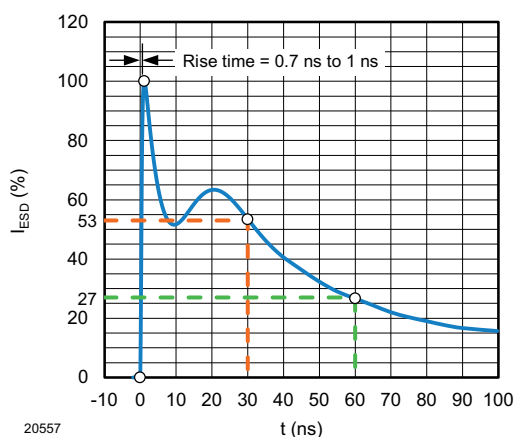


Fig. 1 - ESD Discharge Current Wave Form  
acc. IEC 61000-4-2 (330  $\Omega$  / 150 pF)

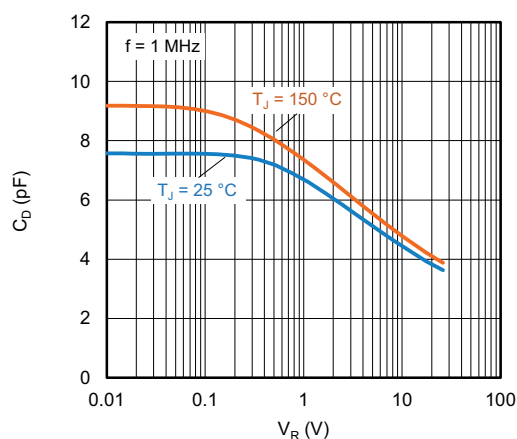


Fig. 3 - Typical Capacitance vs. Reverse Voltage

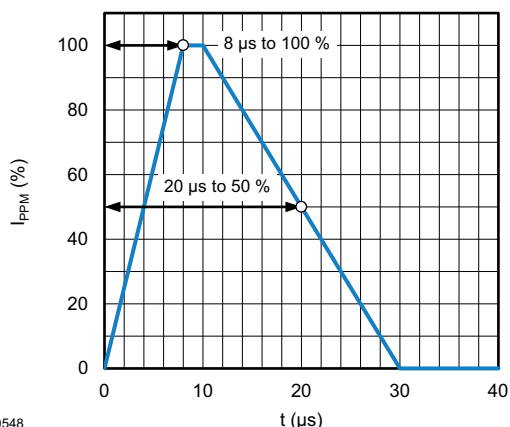


Fig. 2 - 8/20  $\mu$ s Peak Pulse Current Wave Form  
acc. IEC 61000-4-5

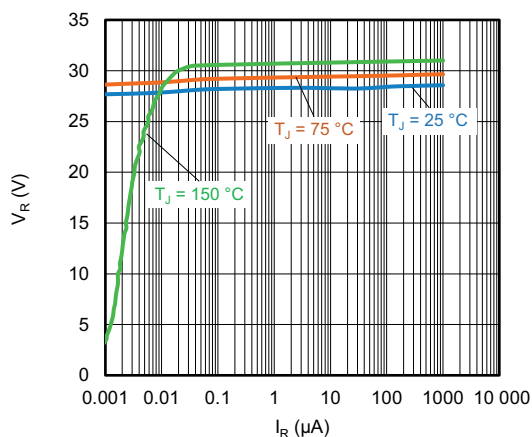


Fig. 4 - Typical Reverse Voltage vs. Reverse Current

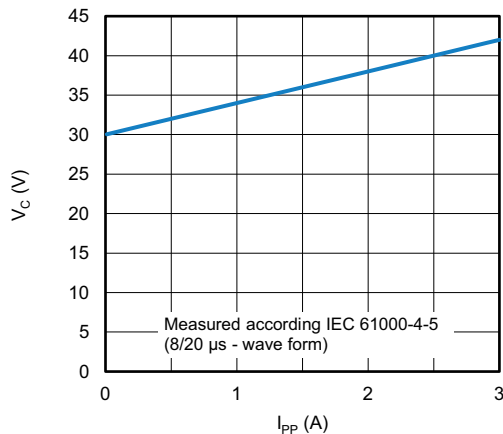


Fig. 5 - Typical Peak Clamping Voltage vs. Peak Pulse Current

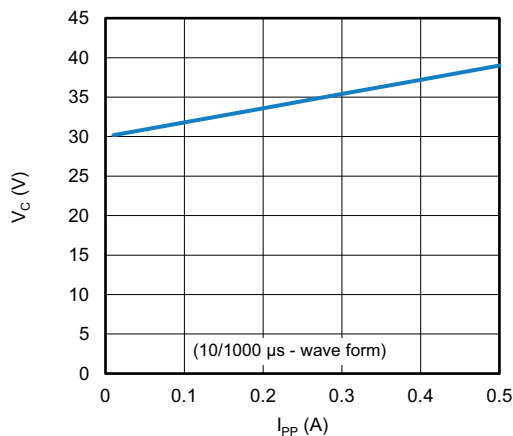


Fig. 6 - Typical Peak Clamping Voltage vs. Peak Pulse Current

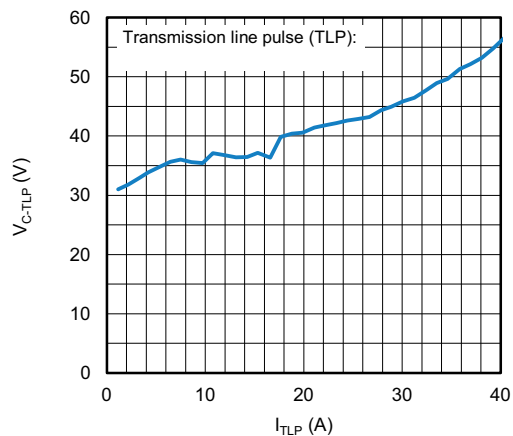
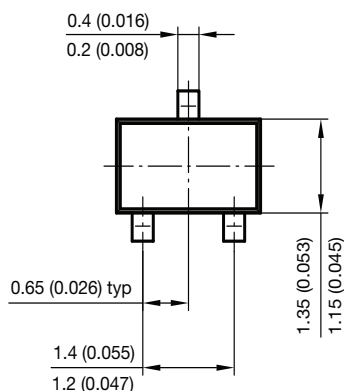
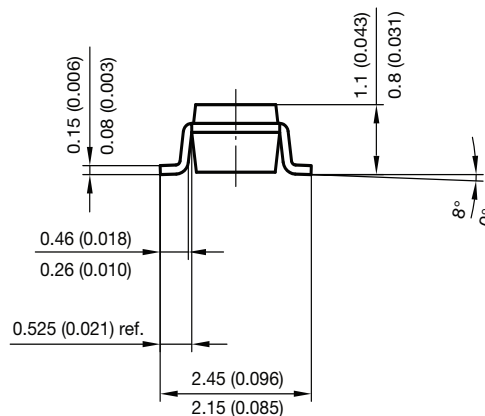
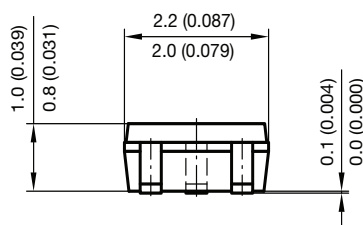
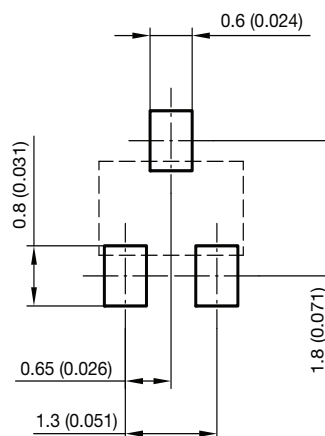


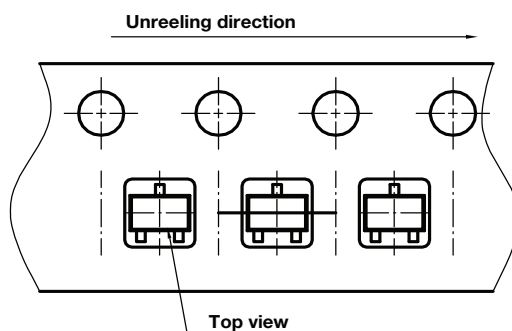
Fig. 7 - Typical Clamping Voltage vs. Peak Pulse Current

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


foot print recommendation:



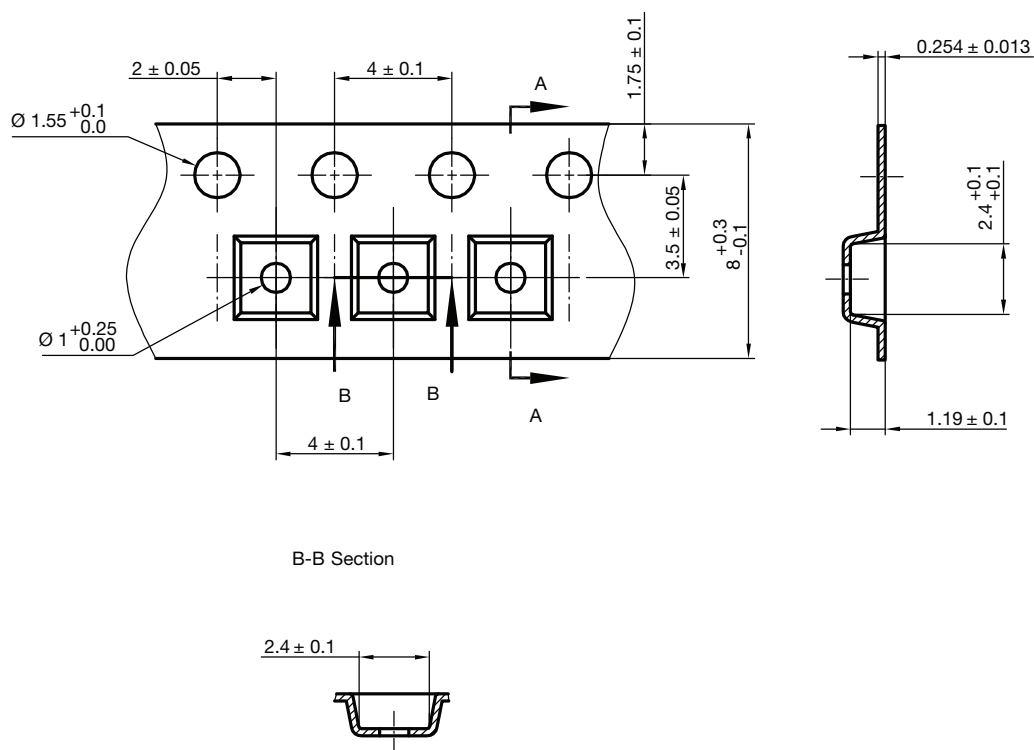
Document no.: 6.541-5040.02-4  
Rev. 1 - Date: 06. April 2010  
21113

**ORIENTATION IN CARRIER TAPE SOT-323**


Document no.: S8-V-3717.08-002 (4)  
Created - Date: 09. Feb. 2010  
22761



CARRIER TAPE SOT-323



Document no.: S8-V-3717.08-002 (4)  
Created - Date: 09. Feb. 2010  
22762



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