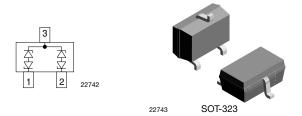


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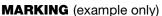
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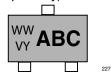
## Bidirectional Symmetrical (BiSy) Low Capacitance, Dual-Line ESD Protection Diode in SOT-323



#### **FEATURES**

- For CAN and FLEX-bus applications
- Small SOT-323 package
- T<sub>J</sub> max. = 175 °C
- 2-line ESD protection
- Working range ± 26.5 V
- Low leakage current I<sub>R</sub> < 0.05 μA</li>
- Low load capacitance C<sub>D</sub> < 15 pF
- = ECD improve the case IEC C1000 4.6
- ESD immunity 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 <a href="https://www.vishay.com/doc?99912"><u>www.vishay.com/doc?99912</u></a>





ABC = type code (see table below) WW = date code working week VY = date code year

#### **LINKS TO ADDITIONAL RESOURCES**



ORDERING INFORMATION								
	ENVIRONMENTAL AND QUALITY CODE				PACKAG			
PART NUMBER (EXAMPLE)	AEC-Q101 QUALIFIED	RoHS-COMPLIANT + LEAD (Pb)-FREE TERMINATIONS		TIN PLATED	3K PER 7" REEL (8 mm TAPE)	10K PER 13" REEL (8 mm TAPE)	ORDERING CODE (EXAMPLE)	
		STANDARD	GREEN	PLATED	15K/BOX = MOQ	10K/BOX = MOQ		
VCAN26A2-03G	-	E		3	-08		VCAN26A2-03G-E3-08	
VCAN26A2-03G	Н	Е		3	-08		VCAN26A2-03GHE3-08	
VCAN26A2-03G	-	E		3		-18	VCAN26A2-03G-E3-18	
VCAN26A2-03G	Н	E		3		-18	VCAN26A2-03GHE3-18	

PACKAGE DATA							
DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS	
VCAN26A2-03G	SOT-323	6A2	5.65 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C	

ABSOLUTE MAXIMUM RATINGS						
PARAMETER	PARAMETER TEST CONDITIONS		VALUE	UNIT		
Peak pulse current	$T_A$ = 25 °C, acc. IEC 61000-4-5; $t_p$ = 8/20 $\mu$ s; single shot	I <sub>PPM</sub>	3	Α		
Peak pulse power	$T_A = 25$ °C; pin 1 or 2 to pin 3; acc. IEC 61000-4-5; $t_p = 8/20$ µs; single shot	$P_PP$	150	W		
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses, T <sub>A</sub> = 25 °C		± 30	kV		
	Air discharge acc. IEC 61000-4-2; 10 pulses, T <sub>A</sub> = 25 °C	$V_{ESD}$	± 30	kV		
Operating temperature	Junction temperature	TJ	-55 to +175	°C		
Storage temperature		$T_{STG}$	-55 to +175	°C		

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<b>ELECTRICAL CHARACTERISTICS</b> (pin 1 to 3, 3 to 1, 2 to 3, or 3 to 2) (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>	-	-	2	lines		
Reverse stand-off voltage	Max. reverse working voltage	$V_{RWM}$	-	-	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	μΑ		
Reverse breakdown voltage	At I <sub>R</sub> = 1 mA	$V_{BR}$	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>	-	33	40	V		
	At $I_{PP} = I_{PPM} = 3 \text{ A}$ ; $t_p = 8/20 \mu\text{s}$	V <sub>C</sub>	-	40	50	V		
Capacitance	At $V_R = 0 V$ , $f = 1 MHz$	C <sub>D</sub>	-	10	15	pF		
	Diode capacitance matching at $V_R = 0 \text{ V}$ , $C_{D13}$ vs. $C_{D23}$	C <sub>D</sub>	-	-	1.5	pF		

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

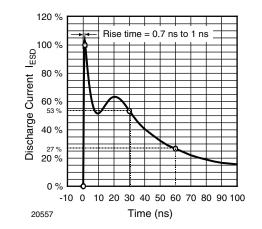


Fig. 1 - ESD Discharge Current Wave Form acc. IEC 61000-4-2 (330  $\Omega$  / 150 pF)

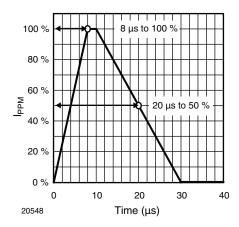


Fig. 2 - 8/20 µs Peak Pulse Current Wave Form acc. IEC 61000-4-5

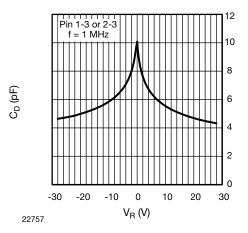


Fig. 3 - Typical Capacitance C<sub>D</sub> vs. Reverse Voltage V<sub>R</sub>

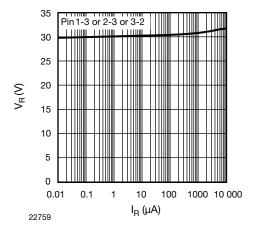


Fig. 4 - Typical Reverse Voltage  $V_{\text{R}}$  vs. Reverse Current  $I_{\text{R}}$ 



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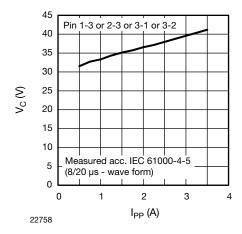


Fig. 5 - Typical Peak Clamping Voltage  $V_C$  vs. Peak Pulse Current  $I_{PP}$ 

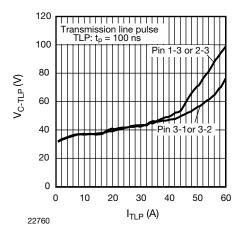
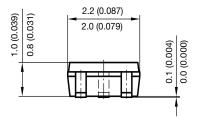
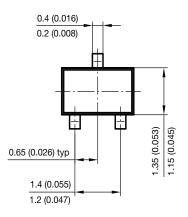


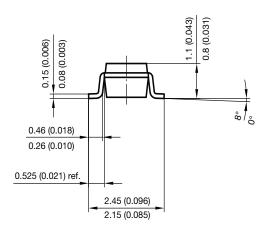
Fig. 6 - Typical Clamping Voltage  $V_{C-TLP}$  vs. Pulse Current  $I_{TLP}$ 

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

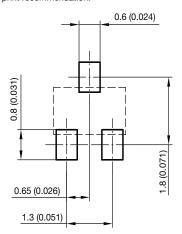




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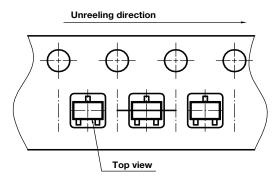
foot print recommendation:





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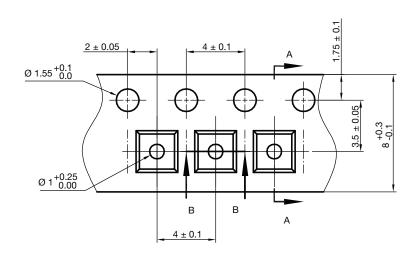
#### **ORIENTATION IN CARRIER TAPE SOT-323**

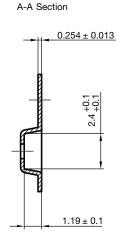


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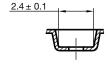
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#### **CARRIER TAPE SOT-323**





B-B Section



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