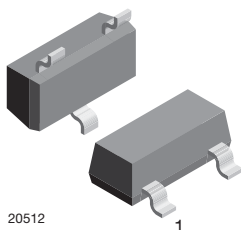
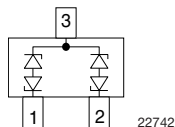
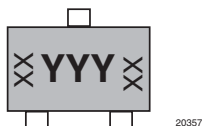


# Bidirectional Symmetrical (BiSy) Low Capacitance, Dual-Line ESD Protection Diode in SOT-23


**RoHS**  
COMPLIANT

## MARKING (example only)



YYY = type code (see table below)

XX = date code

## FEATURES

- For CAN and FLEX-Bus applications
- Small SOT-23 package
- AEC-Q101 qualified available
- 2-line ESD protection
- Working range  $\pm 26.5$  V
- Low leakage current  $I_R < 0.05$   $\mu$ A
- Low load capacitance  $C_D < 13$  pF
- ESD immunity acc. IEC 61000-4-2  
 $\pm 30$  kV contact discharge  
 $\pm 30$  kV air discharge
- e3 - pins plated with tin (Sn)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

## DESIGN SUPPORT TOOLS AVAILABLE



## 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				
VCAN26A2-03S	-	E		3	-08		VCAN26A2-03S-E3-08
VCAN26A2-03S	H	E		3	-08		VCAN26A2-03SHE3-08
VCAN26A2-03S	-	E		3		-18	VCAN26A2-03S-E3-18
VCAN26A2-03S	H	E		3		-18	VCAN26A2-03SHE3-18

## PACKAGE DATA

DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
VCAN26A2-03S	SOT-23	6A2	8.8 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	$I_{PPM}$	3	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	$P_{PP}$	150	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
Operating temperature	Junction temperature	$T_J$	-55 to +150	°C
Storage temperature		$T_{STG}$	-55 to +150	°C

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

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

PARAMETER	TEST CONDITIONS/REMARKS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Protection paths	Number of lines which can be protected	$N_{channel}$	-	-	2	lines
Reverse stand-off voltage	Max. reverse working voltage	$V_{RWM}$	-	-	26.5	V
Reverse voltage	At $I_R = 0.05\text{ }\mu\text{A}$	$V_R$	26.5	-	-	V
Reverse current	At $V_{RWM} = 26.5\text{ V}$	$I_R$	-	-	0.05	$\mu\text{A}$
Reverse breakdown voltage	At $I_R = 1\text{ mA}$	$V_{BR}$	28	30	32	V
Reverse clamping voltage	At $I_{PP} = 1\text{ A}$ ; $t_p = 8/20\text{ }\mu\text{s}$	$V_C$	-	33	40	V
	At $I_{PP} = I_{PPM} = 3\text{ A}$ ; $t_p = 8/20\text{ }\mu\text{s}$	$V_C$	-	39	50	V
Capacitance	At $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$	$C_D$	-	10	13	pF
	Diode capacitance matching at $V_R = 0\text{ V}$ , $T_J = -40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$ / $C_{D13}$ vs. $C_{D23}$	$C_D$	-	-	1.5	pF

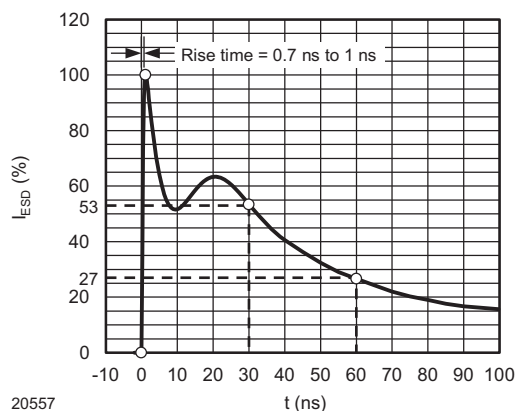
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

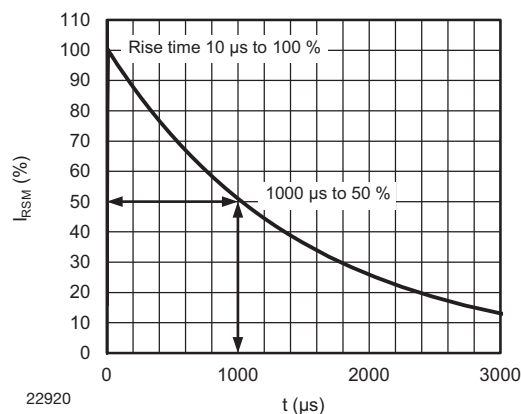


Fig. 3 - 10/1000 $\mu\text{s}$  Peak Pulse Current Wave Form

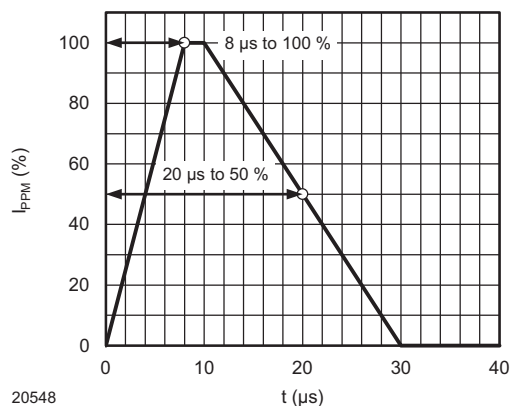


Fig. 2 - 8/20  $\mu\text{s}$  Peak Pulse Current Wave Form  
acc. IEC 61000-4-5

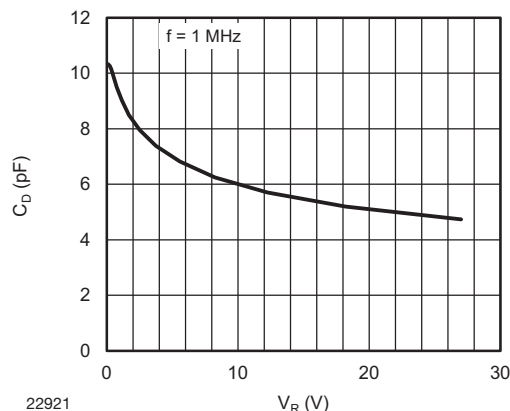


Fig. 4 - Typical Capacitance vs. Reverse Voltage

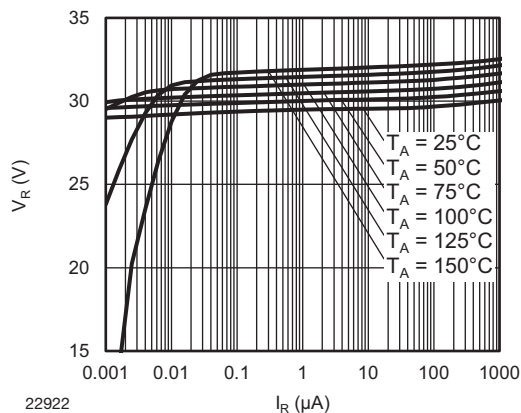


Fig. 5 - Typical Reverse Voltage vs. Reverse Current

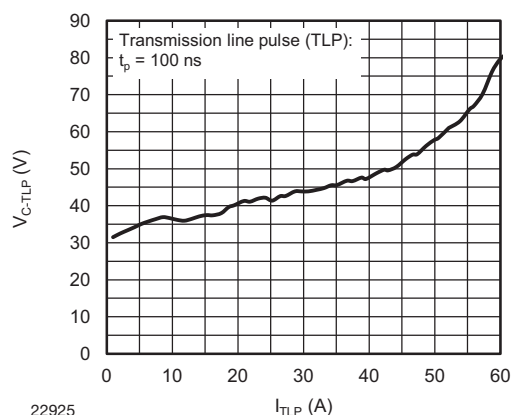


Fig. 8 - Typical Clamping Voltage vs. Peak Pulse Current

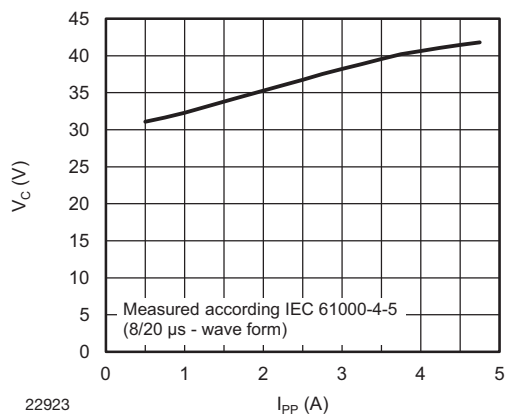


Fig. 6 - Typical Peak Clamping Voltage vs. Peak Pulse Current

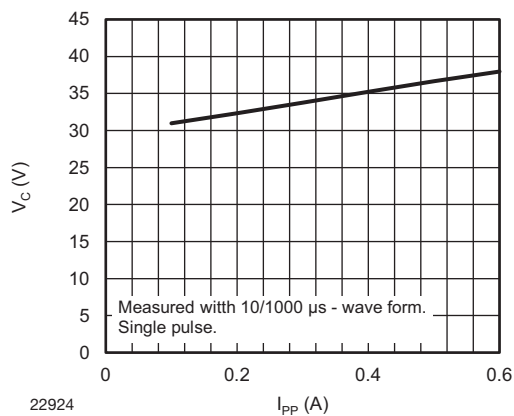
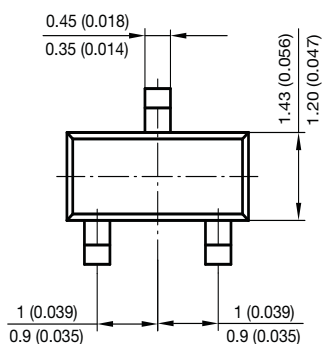
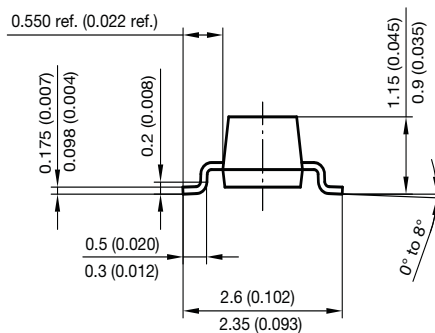
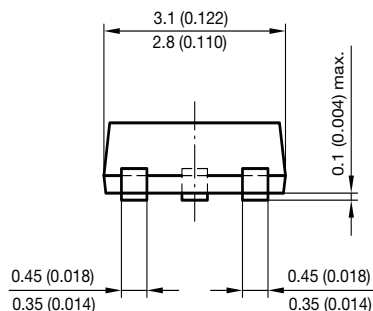


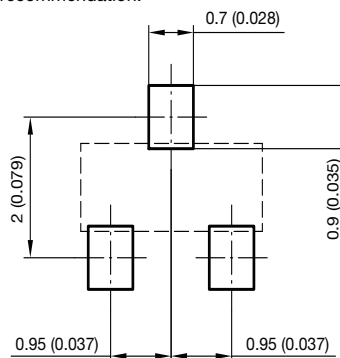
Fig. 7 - Typical Peak Clamping Voltage vs. Peak Pulse Current



**PACKAGE DIMENSIONS** in millimeters (inches) **SOT-23**

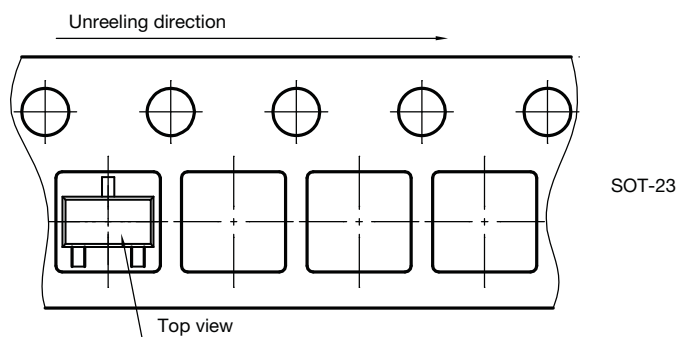


Foot print recommendation:



Document no.: 6.541-5014.01-4  
Rev. 8 - Date: 23. Sep. 2009  
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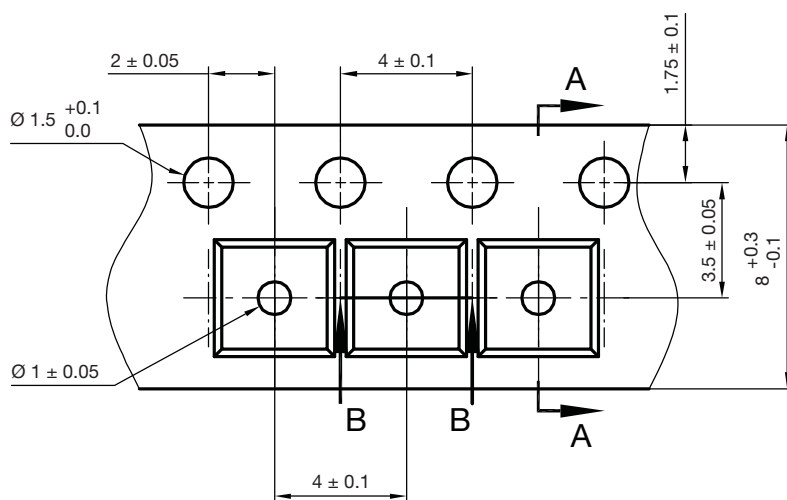
**ORIENTATION IN CARRIER TAPE SOT-23**



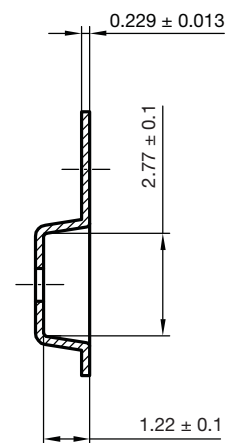
Orientation in carrier tape  
SOT-23  
S8-V-3929.01-006 (4)  
04.02.2010  
22607



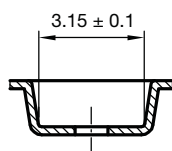
CARRIER TAPE SOT-23



A-A Section



B-B Section



Carrier tape SOT-23  
Document no.: S8-V-3929.01-005 (4)  
Created - Date: 04. Feb. 2010  
22856



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