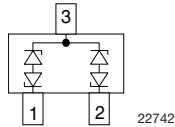
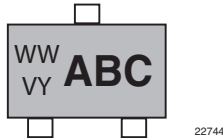


## Bidirectional Symmetrical (BiSy) Low Capacitance, Dual-Line ESD-Protection Diode in SOT-323


**FEATURES**

- For CAN and FLEX-Bus applications
- Small SOT-323 package
- 2-line ESD-protection
- Working range  $\pm 26.5$  V
- Low leakage current  $I_R < 0.05 \mu\text{A}$
- Low load capacitance  $C_D < 15$  pF
- ESD-protection 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)


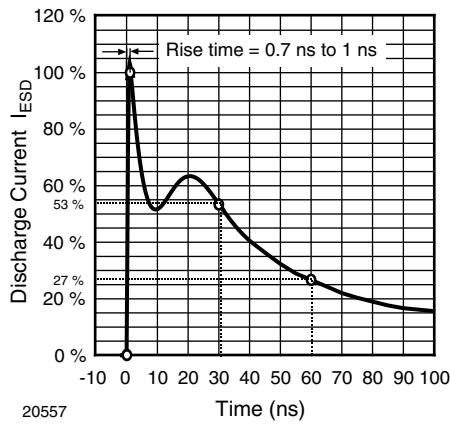
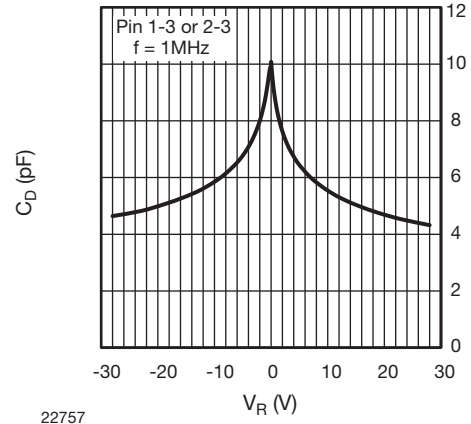
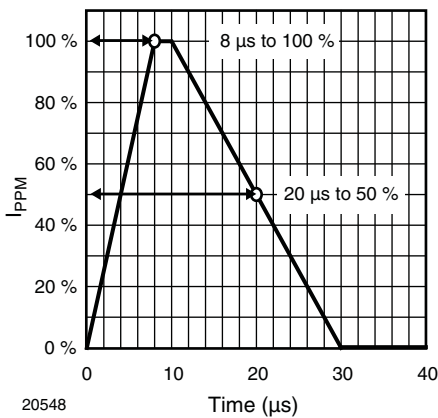
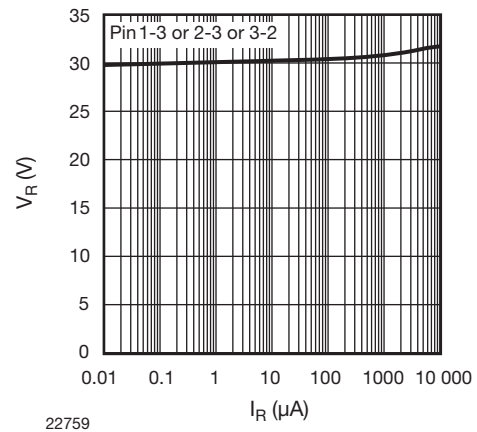
ABC = type code (see table below)  
 WW = date code working week  
 VY = date code year

| 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)<br>15K/BOX = MOQ |                         | 10K PER 13" REEL (8 mm TAPE)<br>10K/BOX = MOQ |
|                       |                                | STANDARD                                     | GREEN |                |   |                         |   |
| VCAN26A2-03G          | -                              | E  |       | 3              | -08   |                         | VCAN26A2-03G-E3-08                            |
| VCAN26A2-03G          | H                              | E  |       | 3              | -08   |                         | VCAN26A2-03GHE3-08                            |
| VCAN26A2-03G          | -                              | E  |       | 3              |   | -18                     | VCAN26A2-03G-E3-18                            |
| VCAN26A2-03G          | H                              | 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                | TEST CONDITIONS  |  | SYMBOL    | VALUE       | UNIT |
| Peak pulse current       | $T_A = 25$ °C, acc. IEC 61000-4-5; $t_p = 8/20$ $\mu\text{s}$ ; 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; $t_p = 8/20$ $\mu\text{s}$ ; 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   |

| <b>ELECTRICAL CHARACTERISTICS</b> (pin 1 to 3, 3 to 1, 2 to 3, or 3 to 2)<br>( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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 $I_{PP} = I_{PPM} = 3\text{ A}$ ; $t_p = 8/20\text{ }\mu\text{s}$   | $V_C$         | -    | 40   | 50   | V             |
| Capacitance   | At $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$   | $C_D$         | -    | 10   | 15   | pF            |
|   | Diode capacitance matching at $V_R = 0\text{ V}$ ,<br>$T_J = -40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$ / $C_{D13}$ vs. $C_{D23}$ | $C_D$         | -    | -    | 2    | 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 - Typical Capacitance  $C_D$  vs. Reverse Voltage  $V_R$ 

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

 Fig. 4 - Typical Reverse Voltage  $V_R$  vs. Reverse Current  $I_R$

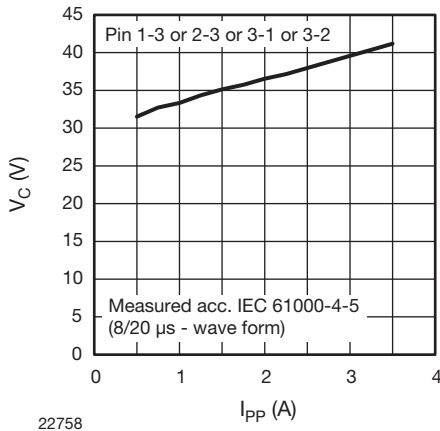


Fig. 5 - Typical Peak Clamping Voltage  $V_C$  vs. Peak Pulse Current  $I_{PP}$

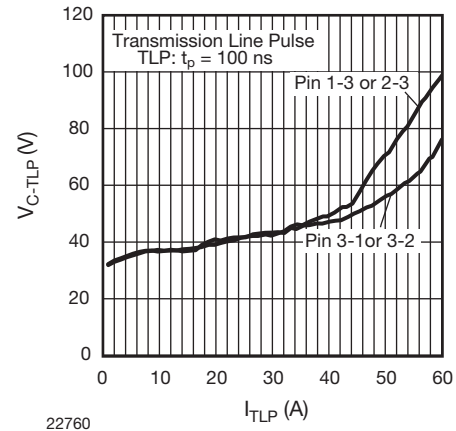
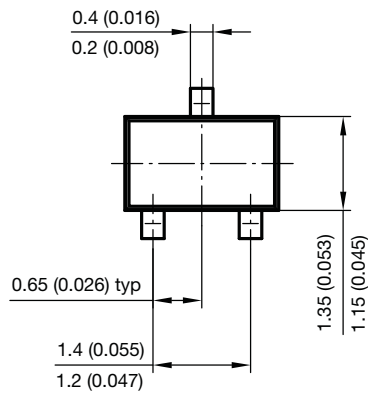
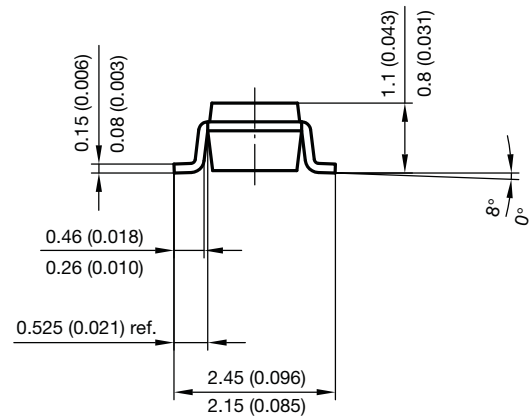
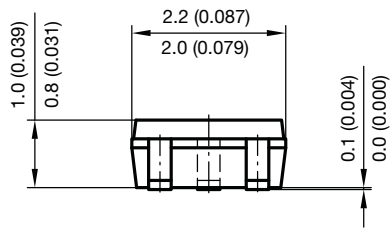
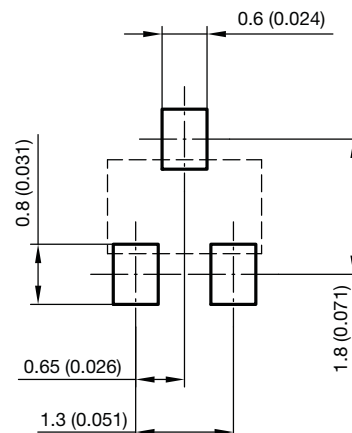


Fig. 6 - Typical Clamping Voltage  $V_{C-TLP}$  vs. Pulse Current  $I_{TLP}$

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



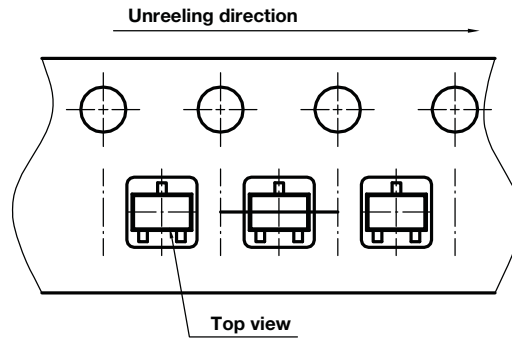
foot print recommendation:



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 Rev. 1 - Date: 06. April 2010  
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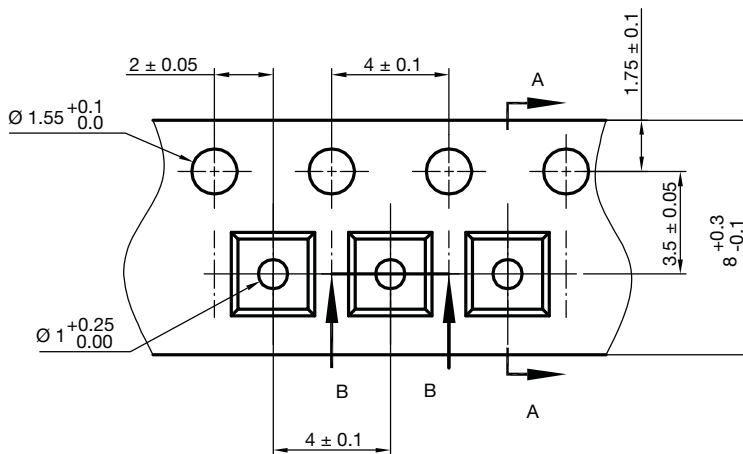


ORIENTATION IN CARRIER TAPE SOT-323

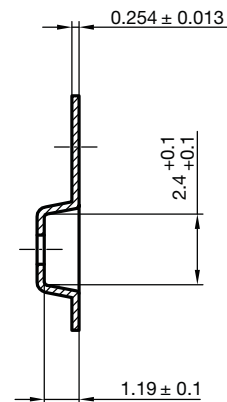


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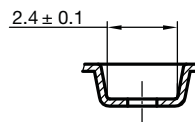
CARRIER TAPE SOT-323



A-A Section



B-B Section



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