BiAs Single-Line ESD Protection Diode
With Reverse Breakdown Voltage Above 15.5 V

KEY BENEFITS

• Ultra-compact LLP1006-2L package
  – 1.0 mm by 0.6 mm footprint
  – Extremely low profile of < 0.4 mm
• Minimum 15.5 V reverse breakdown voltage
• Low leakage current of < 0.1 µA
• Low load capacitance of 45 pF
• RoHS-compliant and halogen-free

APPLICATIONS

• ESD protection in portable electronics, including gaming systems, MP3 players, smartphones, and tablets

RESOURCES

• For technical questions, contact ESDprotection@vishay.com
• Material categorization: For definitions of compliance, please see www.vishay.com/doc?99912
BiAs Single-Line ESD Protection Diode
With Reverse Breakdown Voltage Above 15.5 V

FEATURES
• Ultra compact LLP1006-2L package
• Low package height < 0.4 mm
• 1-line ESD-protection
• Low leakage current < 0.01 μA
• Low load capacitance $C_D = 45 \text{ pF}$ ($V_R = 0 \text{ V}; f = 1 \text{ MHz}$)
• ESD-protection acc. IEC 61000-4-2
  $\pm 30 \text{ kV}$ contact discharge
  $\pm 30 \text{ kV}$ air discharge
• High surge current acc. IEC61000-4-5 $I_{PP} > 6 \text{ A}$
• Soldering can be checked by standard vision inspection. No X-ray necessary
• Pin plating NiPdAu (e4) no whisker growth
• e4 - precious metal (e.g. Ag, Au, NiPd, NiPdAu) (no Sn)
• Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

MARKING (example only)
Bar = cathode marking
X = date code
Y = type code (see table below)

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>DEVICE NAME</th>
<th>ORDERING CODE</th>
<th>TAPED UNITS PER REEL (8 mm TAPE on 7” REEL)</th>
<th>MINIMUM ORDER QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>VESD15A1-HD1</td>
<td>VESD15A1-HD1-G4-08</td>
<td>8000</td>
<td>8000</td>
</tr>
</tbody>
</table>

PACKAGE DATA

<table>
<thead>
<tr>
<th>DEVICE NAME</th>
<th>PACKAGE NAME</th>
<th>TYPE CODE</th>
<th>WEIGHT</th>
<th>MOLDING COMPOUND FLAMMABILITY RATING</th>
<th>MOISTURE SENSITIVITY LEVEL</th>
<th>SOLDERING CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VESD15A1-HD1</td>
<td>LLP1006-2L</td>
<td>W</td>
<td>0.72 mg</td>
<td>UL 94 V-0</td>
<td>MSL level 1 (according J-STD-020)</td>
<td>Peak temperature max. 260 °C</td>
</tr>
</tbody>
</table>

ABSOLUTE MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>TEST CONDITIONS</th>
<th>SYMBOL</th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak pulse current</td>
<td>Acc. IEC 61000-4-5; $t_P = 8/20 \mu s$; single shot</td>
<td>$I_{PPM}$</td>
<td>6</td>
<td>A</td>
</tr>
<tr>
<td>Peak pulse power</td>
<td>Acc. IEC 61000-4-5; $t_P = 8/20 \mu s$; single shot</td>
<td>$P_{PP}$</td>
<td>150</td>
<td>W</td>
</tr>
<tr>
<td>ESD immunity</td>
<td>Contact discharge acc. IEC 61000-4-2; 10 pulses</td>
<td>$V_{ESD}$</td>
<td>$\pm 30$</td>
<td>kV</td>
</tr>
<tr>
<td></td>
<td>Air discharge acc. IEC 61000-4-2; 10 pulses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>Junction temperature</td>
<td>$T_J$</td>
<td>-40 to +125</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td></td>
<td>$T_{stg}$</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
</tbody>
</table>