BZX79 series
Voltage regulator diodes

Product specification
Supersedes data of April 1992
File under Discrete Semiconductors, SC01
**Voltage regulator diodes**

**BZX79 series**

**FEATURES**
- Total power dissipation: max. 500 mW
- Four tolerance series: ±1%, ±2%, ±3% and ±5%
- Working voltage range: nom. 2.4 to 75 V (E24 range)
- Non-repetitive peak reverse power dissipation: max. 40 W.

**APPLICATIONS**
- Low voltage stabilizers or voltage references.

**DESCRIPTION**
Low-power voltage regulator diodes in hermetically sealed leaded glass SOD27 (DO-35) packages. The diodes are available in the normalized E24 ±1% (BZX79-A), ±2% (BZX79-B), ±3% (BZX79-F) and ±5% (BZX79-C) tolerance range. The series consists of 37 types with nominal working voltages from 2.4 to 75 V.

**LIMITING VALUES**
In accordance with the Absolute Maximum Rating System (IEC 134).

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>MIN.</th>
<th>MAX.</th>
<th>UNIT</th>
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</thead>
<tbody>
<tr>
<td>IF</td>
<td>continuous forward current</td>
<td></td>
<td>–</td>
<td>250</td>
<td>mA</td>
</tr>
<tr>
<td>IZSM</td>
<td>non-repetitive peak reverse current</td>
<td>( t_p = 100 \mu s ); square wave; ( T_j = 25 \degree C ) prior to surge</td>
<td>see Tables 1, 2, 3 and 4</td>
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<td></td>
</tr>
<tr>
<td>Ptot</td>
<td>total power dissipation</td>
<td>( T_{amb} = 50 \degree C ); note 1</td>
<td>–</td>
<td>400</td>
<td>mW</td>
</tr>
<tr>
<td>PZSM</td>
<td>non-repetitive peak reverse power dissipation</td>
<td>( t_p = 100 \mu s ); square wave; ( T_j = 25 \degree C ) prior to surge; see Fig.3</td>
<td>–</td>
<td>50</td>
<td>W</td>
</tr>
<tr>
<td>Tstg</td>
<td>storage temperature</td>
<td></td>
<td>–65</td>
<td>+200</td>
<td>°C</td>
</tr>
<tr>
<td>Tj</td>
<td>junction temperature</td>
<td></td>
<td>–65</td>
<td>+200</td>
<td>°C</td>
</tr>
</tbody>
</table>

**Notes**
1. Device mounted on a printed circuit-board without metallization pad; lead length max.
2. Tie-point temperature \( \leq 50 \degree C \); max. lead length 8 mm.
ELECTRICAL CHARACTERISTICS

Total BZX79-A and B and F and C series

$T_j = 25 \, ^\circ\! \mathrm{C}$; unless otherwise specified.

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>MAX.</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_F$</td>
<td>forward voltage</td>
<td>$I_F = 10 , \text{mA}$; see Fig.4</td>
<td>0.9</td>
<td>V</td>
</tr>
<tr>
<td>$I_R$</td>
<td>reverse current</td>
<td>$V_R$</td>
<td>50</td>
<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C2V4</td>
<td>$V_R = 1 , V$</td>
<td></td>
<td></td>
<td>$\mu$A</td>
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<tr>
<td>BZX79-A/B/F/C2V7</td>
<td>$V_R = 1 , V$</td>
<td></td>
<td></td>
<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C3V0</td>
<td>$V_R = 1 , V$</td>
<td>10</td>
<td></td>
<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C3V3</td>
<td>$V_R = 1 , V$</td>
<td>5</td>
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<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C3V6</td>
<td>$V_R = 1 , V$</td>
<td>5</td>
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<td>$\mu$A</td>
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<tr>
<td>BZX79-A/B/F/C3V9</td>
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<td>3</td>
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<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C4V3</td>
<td>$V_R = 1 , V$</td>
<td>3</td>
<td></td>
<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C4V7</td>
<td>$V_R = 2 , V$</td>
<td>3</td>
<td></td>
<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C5V1</td>
<td>$V_R = 2 , V$</td>
<td>2</td>
<td></td>
<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C5V6</td>
<td>$V_R = 2 , V$</td>
<td>1</td>
<td></td>
<td>$\mu$A</td>
</tr>
<tr>
<td>BZX79-A/B/F/C6V2</td>
<td>$V_R = 4 , V$</td>
<td>3</td>
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<td>$\mu$A</td>
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<tr>
<td>BZX79-A/B/F/C6V8</td>
<td>$V_R = 4 , V$</td>
<td>2</td>
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<td>$\mu$A</td>
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<tr>
<td>BZX79-A/B/F/C7V5</td>
<td>$V_R = 5 , V$</td>
<td>1</td>
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<td>$\mu$A</td>
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<tr>
<td>BZX79-A/B/F/C8V2</td>
<td>$V_R = 5 , V$</td>
<td>700</td>
<td>nA</td>
<td></td>
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<tr>
<td>BZX79-A/B/F/C9V1</td>
<td>$V_R = 6 , V$</td>
<td>500</td>
<td>nA</td>
<td></td>
</tr>
<tr>
<td>BZX79-A/B/F/C10</td>
<td>$V_R = 7 , V$</td>
<td>200</td>
<td>nA</td>
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<tr>
<td>BZX79-A/B/F/C11</td>
<td>$V_R = 8 , V$</td>
<td>100</td>
<td>nA</td>
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<tr>
<td>BZX79-A/B/F/C12</td>
<td>$V_R = 8 , V$</td>
<td>100</td>
<td>nA</td>
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</tr>
<tr>
<td>BZX79-A/B/F/C13</td>
<td>$V_R = 8 , V$</td>
<td>100</td>
<td>nA</td>
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</tr>
<tr>
<td>BZX79-A/B/F/C15 to 75</td>
<td>$V_R = 0.7V_{Z_{nom}}$</td>
<td>50</td>
<td>nA</td>
<td></td>
</tr>
</tbody>
</table>
Table 1  Per type BZX79-A/B2V4 to A/B24

<table>
<thead>
<tr>
<th>BZX79-XXX</th>
<th>WORKING VOLTAGE ( V_z ) at ( I_{Z\text{test}} ) = 5 mA</th>
<th>DIFFERENTIAL RESISTANCE ( r_{\text{diff}} ) (Ω) at ( I_{Z\text{test}} ) = 1 mA and 5 mA</th>
<th>TEMP. COEFF. ( S_z ) (mV/K) at ( I_{Z\text{test}} ) = 5 mA (see Figs 5 and 6)</th>
<th>DIODE CAP. ( C_d ) (pF) at 1 MHz; ( V_R ) = 0 V</th>
<th>NON-REPETITIVE PEAK REVERSE CURRENT ( I_{Z\text{SM}} ) (A) at ( t_p ) = 100 µs; ( T_{\text{amb}} ) = 25 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( V_z ) (V)</td>
<td>( V_z ) at ( I_{Z\text{test}} ) = 5 mA</td>
<td>( r_{\text{diff}} ) (Ω) at ( I_{Z\text{test}} ) = 1 mA and 5 mA</td>
<td>( S_z ) (mV/K) at ( I_{Z\text{test}} ) = 5 mA (see Figs 5 and 6)</td>
<td>( C_d ) (pF) at 1 MHz; ( V_R ) = 0 V</td>
</tr>
<tr>
<td>2V4</td>
<td>2.37 2.43 2.35 2.45</td>
<td>275 600 70 100</td>
<td>( -3.5 ) ( -1.6 ) 0</td>
<td>450 6.0</td>
<td></td>
</tr>
<tr>
<td>2V7</td>
<td>2.67 2.73 2.65 2.75</td>
<td>300 600 75 100</td>
<td>( -3.5 ) ( -2.0 ) 0</td>
<td>450 6.0</td>
<td></td>
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<tr>
<td>3V0</td>
<td>2.97 3.03 2.94 3.06</td>
<td>325 600 80 95</td>
<td>( -3.5 ) ( -2.1 ) 0</td>
<td>450 6.0</td>
<td></td>
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<tr>
<td>3V3</td>
<td>3.26 3.34 3.23 3.37</td>
<td>350 600 85 95</td>
<td>( -3.5 ) ( -2.4 ) 0</td>
<td>450 6.0</td>
<td></td>
</tr>
<tr>
<td>3V6</td>
<td>3.56 3.64 3.53 3.67</td>
<td>375 600 85 90</td>
<td>( -3.5 ) ( -2.4 ) 0</td>
<td>450 6.0</td>
<td></td>
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<tr>
<td>3V9</td>
<td>3.86 3.94 3.82 3.98</td>
<td>400 600 85 90</td>
<td>( -3.5 ) ( -2.5 ) 0</td>
<td>450 6.0</td>
<td></td>
</tr>
<tr>
<td>4V3</td>
<td>4.25 4.35 4.21 4.39</td>
<td>410 600 80 90</td>
<td>( -3.5 ) ( -2.5 ) 0</td>
<td>450 6.0</td>
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<tr>
<td>4V7</td>
<td>4.65 4.75 4.61 4.79</td>
<td>425 500 50 80</td>
<td>( -3.5 ) ( -1.4 ) 0.2</td>
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<tr>
<td>5V1</td>
<td>5.04 5.16 5.00 5.20</td>
<td>400 480 40 60</td>
<td>( -2.7 ) ( -0.8 ) 1.2</td>
<td>300 6.0</td>
<td></td>
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<tr>
<td>5V6</td>
<td>5.54 5.66 5.49 5.71</td>
<td>80 400 15 40</td>
<td>( -2.0 ) 1.2 2.5</td>
<td>300 6.0</td>
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<tr>
<td>6V2</td>
<td>6.13 6.27 6.08 6.32</td>
<td>40 150 6 10</td>
<td>0.4 2.3 3.7</td>
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<tr>
<td>6V9</td>
<td>6.73 6.87 6.66 6.94</td>
<td>30 80 6 15</td>
<td>1.2 3.0 4.5</td>
<td>200 6.0</td>
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<tr>
<td>7V5</td>
<td>7.42 7.58 7.35 7.65</td>
<td>30 80 6 15</td>
<td>2.5 4.0 5.3</td>
<td>150 4.0</td>
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<tr>
<td>8V2</td>
<td>8.11 8.29 8.04 8.36</td>
<td>40 80 6 15</td>
<td>3.2 4.6 6.2</td>
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<tr>
<td>9V1</td>
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<td>3.8 5.5 7.0</td>
<td>150 3.0</td>
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<tr>
<td>10</td>
<td>9.90 10.10 9.80 10.20</td>
<td>50 150 8 20</td>
<td>4.5 6.4 8.0</td>
<td>90 3.0</td>
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</tr>
<tr>
<td>11</td>
<td>10.89 11.11 10.80 11.20</td>
<td>50 150 10 20</td>
<td>5.4 7.4 9.0</td>
<td>85 2.5</td>
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</tr>
<tr>
<td>12</td>
<td>11.88 12.12 11.80 12.20</td>
<td>50 150 10 25</td>
<td>6.0 8.4 10.0</td>
<td>85 2.5</td>
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<tr>
<td>13</td>
<td>12.87 13.13 12.70 13.30</td>
<td>50 170 10 30</td>
<td>7.0 9.4 11.0</td>
<td>80 2.5</td>
<td></td>
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<tr>
<td>14</td>
<td>14.85 15.15 14.70 15.30</td>
<td>50 200 10 30</td>
<td>9.2 11.4 13.0</td>
<td>75 2.0</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15.84 16.16 15.70 16.30</td>
<td>50 200 10 40</td>
<td>10.4 12.4 14.0</td>
<td>75 1.5</td>
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</tr>
<tr>
<td>16</td>
<td>17.82 18.18 17.60 18.40</td>
<td>50 225 10 45</td>
<td>12.4 14.4 16.0</td>
<td>70 1.5</td>
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</tr>
<tr>
<td>17</td>
<td>19.80 20.20 19.60 20.40</td>
<td>60 225 15 55</td>
<td>14.4 16.4 18.0</td>
<td>60 1.5</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>21.78 22.22 21.60 22.40</td>
<td>60 250 20 55</td>
<td>16.4 18.4 20.0</td>
<td>60 1.25</td>
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</tr>
<tr>
<td>20</td>
<td>23.76 24.24 23.50 24.50</td>
<td>60 250 25 70</td>
<td>18.4 20.4 22.0</td>
<td>55 1.25</td>
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</table>
### Table 2
Per type BZX79-A/B27 to A/B75

**T<sub>j</sub> = 25 °C; unless otherwise specified.**

<table>
<thead>
<tr>
<th>BZX79-A or B XXX</th>
<th>Working Voltage ( V_Z ) (V) at ( I_Z_{\text{test}} = 2 \text{ mA} )</th>
<th>Differential Resistance ( r_{\text{dif}} ) (Ω)</th>
<th>Temp. Coeff. ( S_Z ) (mV/K) at ( I_Z_{\text{test}} = 2 \text{ mA} ) (see Figs 5 and 6)</th>
<th>Diode Cap. ( C_d ) (pF) at ( f = 1 \text{ MHz}; V_R = 0 \text{ V} )</th>
<th>Non-Repetitive Peak Reverse Current ( I_{ZSM} ) (A) at ( T_{\text{p}} = 100 \mu\text{s}; T_{\text{amb}} = 25 \text{ °C} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min.</td>
<td>Max.</td>
<td>Min.</td>
<td>Max.</td>
<td>TYP.</td>
<td>MAX.</td>
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<td>27</td>
<td>26.73</td>
<td>27.27</td>
<td>26.50</td>
<td>27.50</td>
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<tr>
<td>30</td>
<td>29.70</td>
<td>30.30</td>
<td>29.40</td>
<td>30.60</td>
<td>70</td>
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<td>32.30</td>
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<td>75</td>
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<td>36.36</td>
<td>35.30</td>
<td>36.70</td>
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<td>38.20</td>
<td>39.80</td>
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<td>47.47</td>
<td>46.10</td>
<td>47.90</td>
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<td>50.00</td>
<td>52.00</td>
<td>90</td>
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<td>56.56</td>
<td>54.90</td>
<td>57.10</td>
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<td>62.62</td>
<td>60.80</td>
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<td>67.32</td>
<td>68.68</td>
<td>66.60</td>
<td>69.40</td>
<td>150</td>
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<td>75.75</td>
<td>73.50</td>
<td>76.50</td>
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### Table 3

<table>
<thead>
<tr>
<th>BZX79-XXX</th>
<th>WORKING VOLTAGE (V_z) at (I_{z\text{test}} = 5) mA</th>
<th>DIFFERENTIAL RESISTANCE (r_{\text{dif}}) (Ω)</th>
<th>TEMP. COEFF. (S_z) (mV/K) at (I_{z\text{test}} = 5) mA (see Figs 5 and 6)</th>
<th>DIODE CAP. (C_d) (pF) at (f = 1) MHz; (V_R = 0) V</th>
<th>NON-REPETITIVE PEAK REVERSE CURRENT (I_{z\text{SM}}) (A) at (t_p = 100) μs; (T_{\text{amb}} = 25) °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>F or C</td>
<td>(V_z) (V) at (I_{z\text{test}} = 5) mA</td>
<td>(r_{\text{dif}}) at (I_{z\text{test}} = 1) mA</td>
<td>(r_{\text{dif}}) at (I_{z\text{test}} = 5) mA</td>
<td>(S_z) (mV/K) at (f = 1) MHz; (V_R = 0) V</td>
<td>(I_{z\text{SM}}) (A) at (t_p = 100) μs; (T_{\text{amb}} = 25) °C</td>
</tr>
<tr>
<td>2V4</td>
<td>2.33 ±3% (F) 2.24 ±5% (C)</td>
<td>275 600 70 100</td>
<td>-3.5 -1.6 0 450 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2V7</td>
<td>2.62 ±3% (F) 2.45 ±5% (C)</td>
<td>300 600 75 100</td>
<td>-3.5 -2.0 0 450 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3V0</td>
<td>2.91 ±3% (F) 2.99 ±5% (C)</td>
<td>325 600 80 95</td>
<td>-3.5 -2.1 0 450 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3V3</td>
<td>3.20 ±3% (F) 3.30 ±5% (C)</td>
<td>350 600 85 95</td>
<td>-3.5 -2.4 0 450 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3V6</td>
<td>3.49 ±3% (F) 3.54 ±5% (C)</td>
<td>375 600 85 95</td>
<td>-3.5 -2.4 0 450 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3V9</td>
<td>3.78 ±3% (F) 3.80 ±5% (C)</td>
<td>400 600 85 95</td>
<td>-3.5 -2.5 0 450 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4V3</td>
<td>4.17 ±3% (F) 4.30 ±5% (C)</td>
<td>410 600 80 90</td>
<td>-3.5 -2.5 0 450 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4V7</td>
<td>4.56 ±3% (F) 4.60 ±5% (C)</td>
<td>425 600 80 90</td>
<td>-3.5 -1.4 0.2 300 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5V1</td>
<td>4.95 ±3% (F) 5.10 ±5% (C)</td>
<td>400 480 40 60</td>
<td>-2.7 -0.8 1.2 300 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5V3</td>
<td>5.43 ±3% (F) 5.57 ±5% (C)</td>
<td>80 400 15 40</td>
<td>-2.0 1.2 2.5 300 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5V6</td>
<td>6.01 ±3% (F) 6.10 ±5% (C)</td>
<td>40 150 6 10</td>
<td>0.4 2.3 3.7 200 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6V2</td>
<td>6.60 ±3% (F) 6.40 ±5% (C)</td>
<td>30 80 6 15</td>
<td>1.2 3.0 4.5 200 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6V3</td>
<td>7.28 ±3% (F) 7.20 ±5% (C)</td>
<td>30 80 6 15</td>
<td>2.5 4.0 5.3 150 4.0</td>
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<td>6V6</td>
<td>7.89 ±3% (F) 7.90 ±5% (C)</td>
<td>40 80 6 15</td>
<td>3.2 4.6 6.2 150 4.0</td>
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<td>7V2</td>
<td>8.83 ±3% (F) 9.37 ±5% (C)</td>
<td>40 100 6 15</td>
<td>3.8 5.5 7.0 150 3.0</td>
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<tr>
<td>8V1</td>
<td>9.70 ±3% (F) 10.30 ±5% (C)</td>
<td>50 150 8 20</td>
<td>4.5 6.4 8.0 90 3.0</td>
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<tr>
<td>9V1</td>
<td>10.67 ±3% (F) 11.33 ±5% (C)</td>
<td>50 150 10 20</td>
<td>5.4 7.4 9.0 85 2.5</td>
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<tr>
<td>10</td>
<td>11.64 ±3% (F) 12.36 ±5% (C)</td>
<td>50 150 10 25</td>
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<tr>
<td>12</td>
<td>12.61 ±3% (F) 13.39 ±5% (C)</td>
<td>50 170 10 30</td>
<td>7.0 9.4 11.0 80 2.5</td>
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<tr>
<td>13</td>
<td>14.55 ±3% (F) 15.45 ±5% (C)</td>
<td>50 200 10 30</td>
<td>9.2 11.4 13.0 75 2.0</td>
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<tr>
<td>15</td>
<td>15.50 ±3% (F) 16.50 ±5% (C)</td>
<td>50 200 10 40</td>
<td>10.4 12.4 14.0 75 1.5</td>
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<td></td>
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<tr>
<td>16</td>
<td>16.50 ±3% (F) 17.30 ±5% (C)</td>
<td>50 200 10 40</td>
<td>12.4 14.4 16.0 70 1.5</td>
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<tr>
<td>18</td>
<td>17.50 ±3% (F) 18.50 ±5% (C)</td>
<td>50 225 10 45</td>
<td>12.4 14.4 16.0 70 1.5</td>
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<td>20</td>
<td>19.40 ±3% (F) 20.60 ±5% (C)</td>
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<td>14.4 16.4 18.0 60 1.5</td>
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<td>22</td>
<td>21.30 ±3% (F) 22.70 ±5% (C)</td>
<td>60 250 20 55</td>
<td>16.4 18.4 20.0 60 1.25</td>
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<td>24</td>
<td>23.30 ±3% (F) 24.70 ±5% (C)</td>
<td>60 250 25 70</td>
<td>18.4 20.4 22.0 55 1.25</td>
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Table 4  Per type BZX79-F/C27 to F/C75

\( T_J = 25 \, {^\circ}\text{C}; \) unless otherwise specified.

<table>
<thead>
<tr>
<th>BZX79-XXX</th>
<th>WORKING VOLTAGE ( V_Z ) (V) at ( I_{Z_{\text{test}}} = 2 , \text{mA} )</th>
<th>DIFFERENTIAL RESISTANCE ( r_{\text{dif}} ) (( \Omega )) at ( I_{Z_{\text{test}}} = 0.5 , \text{mA} ) and ( I_{Z_{\text{test}}} = 2 , \text{mA} )</th>
<th>TEMP. COEFF. ( S_Z ) (mV/K) at ( I_{Z_{\text{test}}} = 2 , \text{mA} ) (see Figs 5 and 6)</th>
<th>DIODE CAP. ( C_d ) (pF) at ( f = 1 , \text{MHz}; V_R = 0 , \text{V} )</th>
<th>NON-REPETITIVE PEAK REVERSE CURRENT ( I_{Z_{\text{SM}}} ) (A) at ( t_p = 100 , \mu\text{s}; T_{\text{amb}} = 25 , {^\circ}\text{C} )</th>
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<tr>
<td>F or C</td>
<td>MIN. ( \pm 3% ) (F)</td>
<td>MAX.</td>
<td>MIN. ( \pm 5% ) (C)</td>
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<td>MAX.</td>
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<td>25.1</td>
<td>28.9</td>
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<td>29.10</td>
<td>30.90</td>
<td>28.0</td>
<td>32.0</td>
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<td>31.0</td>
<td>35.0</td>
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<td>36</td>
<td>34.90</td>
<td>37.10</td>
<td>34.0</td>
<td>38.0</td>
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<tr>
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<td>37.80</td>
<td>40.20</td>
<td>37.0</td>
<td>41.0</td>
<td>80</td>
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<tr>
<td>43</td>
<td>41.70</td>
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<td>40.0</td>
<td>46.0</td>
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<tr>
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<td>45.60</td>
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<td>44.0</td>
<td>50.0</td>
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<tr>
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<td>48.0</td>
<td>54.0</td>
<td>90</td>
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<tr>
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<td>57.70</td>
<td>52.0</td>
<td>60.0</td>
<td>100</td>
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<td>58.0</td>
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<td>68</td>
<td>66.00</td>
<td>70.00</td>
<td>64.0</td>
<td>72.0</td>
<td>150</td>
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<tr>
<td>75</td>
<td>72.80</td>
<td>77.20</td>
<td>70.0</td>
<td>79.0</td>
<td>170</td>
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# THERMAL CHARACTERISTICS

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<tr>
<th>SYMBOL</th>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
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<tbody>
<tr>
<td>$R_{\text{th} \ j \ - \ tp}$</td>
<td>thermal resistance from junction to tie-point</td>
<td>lead length 8 mm.</td>
<td>300</td>
<td>K/W</td>
</tr>
<tr>
<td>$R_{\text{th} \ j \ - \ a}$</td>
<td>thermal resistance from junction to ambient</td>
<td>lead length max.; see Fig.2 and note 1</td>
<td>380</td>
<td>K/W</td>
</tr>
</tbody>
</table>

**Note**

1. Device mounted on a printed circuit-board without metallization pad.
Voltage regulator diodes

BZX79 series

GRAPHICAL DATA

Fig.2 Thermal resistance from junction to ambient as a function of pulse duration.

Fig.3 Maximum permissible non-repetitive peak reverse power dissipation versus duration.

(1) $T_j = 25 \, ^\circ\text{C}$ (prior to surge).
(2) $T_j = 150 \, ^\circ\text{C}$ (prior to surge).

Fig.4 Forward current as a function of forward voltage; typical values.

$T_j = 25 \, ^\circ\text{C}$. 
Voltage regulator diodes

BZX79 series

Fig. 5  Temperature coefficient as a function of working current; typical values.

BZX79-A/B/F/C2V4 to A/B/F/C4V3.
$T_J = 25$ to 150 °C.

Fig. 6  Temperature coefficient as a function of working current; typical values.

BZX79-A/B/F/C4V7 to A/B/F/C12.
$T_J = 25$ to 150 °C.
Voltage regulator diodes
BZX79 series

PACKAGE OUTLINE

Fig.7 SOD27 (DO-35).

DEFINITIONS

<table>
<thead>
<tr>
<th>Data sheet status</th>
<th>Description</th>
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<tbody>
<tr>
<td>Objective specification</td>
<td>This data sheet contains target or goal specifications for product development.</td>
</tr>
<tr>
<td>Preliminary specification</td>
<td>This data sheet contains preliminary data; supplementary data may be published later.</td>
</tr>
<tr>
<td>Product specification</td>
<td>This data sheet contains final product specifications.</td>
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</table>

Limiting values

Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

Application information

Where application information is given, it is advisory and does not form part of the specification.

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.