Fast Switching Plastic Rectifier

Reverse Voltage 400 to 1000V  
Forward Current 1.0A

Features

• Plastic package has Underwriters Laboratories Flammability Classification 94V-0  
• High surge current capability  
• Void-free plastic package  
• Fast switching for high efficiency  
• High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-204AL, molded plastic body  
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026  
Polarity: Color band denotes cathode end  
Mounting Position: Any  
Weight: 0.012 oz., 0.3 g  
Packaging codes/options:  
1/5K per bulk box  
23/3K per Ammo mag. (52mm tape),  
4/5.5K per 13" reel (52mm tape),

Maximum Ratings & Thermal Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>BA157</th>
<th>BA158</th>
<th>BA159D</th>
<th>BA159</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum repetitive peak reverse voltage</td>
<td>VRRM</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td>VRMS</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>VDC</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>Maximum average forward rectified current 0.375&quot; (9.5mm) lead length at T_A=55°C</td>
<td>I_F(AV)</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td>A</td>
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<tr>
<td>Peak forward surge current 10ms single half sine-wave superimposed on rated load at T_A=25°C</td>
<td>IFSM</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>A</td>
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<tr>
<td>Maximum operation junction temperature</td>
<td>T_J</td>
<td>–65 to +125</td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
</tr>
<tr>
<td>Maximum storage temperature</td>
<td>T_STG</td>
<td>–65 to +150</td>
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<td></td>
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<td>°C</td>
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Electrical Characteristics

<table>
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<th>Parameter</th>
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<th>BA159D</th>
<th>BA159</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Maximum instantaneous forward voltage at 1.0A</td>
<td>V_F</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC reverse current at rated DC blocking voltage T_A=25°C</td>
<td>I_R</td>
<td>5.0</td>
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<td></td>
<td>µA</td>
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<tr>
<td>Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_R=0.25A</td>
<td>t_rr</td>
<td>150</td>
<td>250</td>
<td>500</td>
<td></td>
<td>ns</td>
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<tr>
<td>Typical junction capacitance at 4.0V, 1MHz</td>
<td>C_J</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
</tr>
</tbody>
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**Ratings and Characteristic Curves** *(T_A = 25°C unless otherwise noted)*

**Fig. 1 – Forward Current Derating Curve**

![Forward Current Derating Curve](image1)

**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**

![Max Peak Forward Surge Current](image2)

**Fig. 3 – Typical Instantaneous Forward Characteristics**

![Instantaneous Forward Characteristics](image3)

**Fig. 4 – Typical Reverse Characteristics**

![Reverse Characteristics](image4)

**Fig. 5 – Typical Junction Capacitance**

![Junction Capacitance](image5)

**Fig. 6 – Typical Transient Thermal Impedance**

![Transient Thermal Impedance](image6)
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Datasheets for electronics components.