RGP15A THRU RGP15M

FAST SWITCHING RECTIFIERS

GLASS PASSIVATED JUNCTION

Reverse Voltage – 50 to 1000 Volts
Forward Current – 1.5 Amperes

Features

- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction.
- 1.5 Ampere operation at $T_A = 55^\circ C$ with no thermal runaway.
- Typical $I_R$ less than 0.1 $\mu$A
- High temperature soldering guaranteed: $350^\circ C/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

- Case: JEDEC DO-204AC, molded plastic over glass body.
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Absolute Maximum Ratings and Characteristics

Ratings at 25$^\circ$C ambient temperature unless otherwise specified.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>RGP 15A</th>
<th>RGP 15B</th>
<th>RGP 15D</th>
<th>RGP 15G</th>
<th>RGP 15J</th>
<th>RGP 15K</th>
<th>RGP 15M</th>
<th>Units</th>
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<tbody>
<tr>
<td>$V_{RRM}$</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>$V_{RMS}$</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
<td>V</td>
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<tr>
<td>$V_{DC}$</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>$I_{F(AV)}$</td>
<td>1.5</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>$I_{FSM}$</td>
<td>50</td>
<td>A</td>
<td></td>
<td></td>
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<tr>
<td>$I_{R(AV)}$</td>
<td>100</td>
<td>$\mu$A</td>
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<tr>
<td>$V_F$</td>
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<td>V</td>
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<tr>
<td>$I_R$</td>
<td>5</td>
<td>$\mu$A</td>
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<tr>
<td>$T_{rr}$</td>
<td>150</td>
<td>250</td>
<td>500</td>
<td>nS</td>
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<td>$C_J$</td>
<td>25</td>
<td>$\mu$F</td>
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<tr>
<td>$R_{\theta JA}$</td>
<td>45</td>
<td>$^\circ$C/W</td>
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<td>$T_J,T_S$</td>
<td>-65 to +175</td>
<td>$^\circ$C</td>
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</table>

Notes: 1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B.mounted.
Ratings and Characteristic Curves (Ta=25°C unless otherwise noted)

**FIG. 1 - FORWARD CURRENT DERATING CURVE**

- Average forward rectified current (A)
- Resistive or inductive load
- Ambient temperature (°C)
- 0.375" (9.5mm) lead length

**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**

- Peak forward surge current (A)
- Tj=Tj max
- 8.3ms single half sine-wave (JEDEC Method)
- Number of cycles at 60 Hz

**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

- Instantaneous forward current (A)
- TJ=25°C
- Pulse width=300μS
- 1% duty cycle
- TJ=25°C
- Reverse voltage (V)
- f=1.0MHz
- Vsige=50mVp-p

**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**

- Instantaneous reverse leakage current (A)
- TJ=Tj max
- TJ=125°C
- TJ=75°C
- TJ=25°C
- Percent of rated peak reverse voltage (%)

**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

- Junction capacitance (pF)
- TJ=25°C
- f=1.0MHz
- Vsige=50mVp-p
- Reverse voltage (V)

**FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE**

- Transient thermal impedance (°C/W)
- TJ=Tj max
- Number of cycles at 60 Hz
- Peak forward surge current (A)
- TJ=125°C
- TJ=75°C
- TJ=25°C
- t, pulse duration (sec.)

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**SEMTECH ELECTRONICS LTD.**

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