RL1601CT THRU RL1607CT

GLASS PASSIVATED SILICON RECTIFIERS
Reverse Voltage – 50 to 1000 Volts
Forward Current – 16.0 Amperes

Features
- Low forward voltage drop
- High current capability
- High capability
- High surge current capability

Mechanical Data
- **Case:** Molded plastic, TO-220
- **Terminals:** leads solderable per MIL-STD-202, method 208 guaranteed
- **Polarity:** As marked
- **Mounting Position:** Any

Absolute Maximum Ratings and Characteristics

<table>
<thead>
<tr>
<th>Symbols</th>
<th>RL 1601CT</th>
<th>RL 1602CT</th>
<th>RL 1603CT</th>
<th>RL 1604CT</th>
<th>RL 1605CT</th>
<th>RL 1606CT</th>
<th>RL 1607CT</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum recurrent peak reverse voltage</td>
<td>$V_{BRM}$</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
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<tr>
<td>Maximum RMS voltage</td>
<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>
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<tr>
<td>Maximum DC blocking voltage</td>
<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>
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<tr>
<td>Maximum average forward Rectified current 0.375(^\text{a})(9.5mm) Lead Length at $T_C = 100,^\circ\text{C}$</td>
<td>$I_{(AV)}$</td>
<td>16.0</td>
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<td>Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)</td>
<td>$I_{FSM}$</td>
<td>150</td>
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<td>Maximum forward voltage at 8.0A DC and 25(^\circ\text{C})</td>
<td>$V_F$</td>
<td>1.1</td>
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<td>Typical junction Capacitance (Note1)</td>
<td>$C_J$</td>
<td>50</td>
<td></td>
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<td>Typical thermal resistance (Note2)</td>
<td>$R_{0JC}$</td>
<td>3.0</td>
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<tr>
<td>Maximum reverse current at rated DC blocking voltage</td>
<td>$I_R$</td>
<td>10</td>
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<td>Operating and storage temperature range</td>
<td>$T_J, T_s$</td>
<td>-55 to +150</td>
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Notes:
1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
2. Thermal resistance from junction to case per leg mounted on heatsink.
FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

For AVERAGE FORWARD CURRENT (A) vs. CASE TEMPERATURE (°C),
- Single phase half wave 60Hz resistive or inductive load

FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PERLEG

For PEAK FORWARD SURGE CURRENT (A) vs. NUMBER OF CYCLES AT 60Hz,
- 8.3ms Single Half Sine Wave JEDEC Method

FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PERLEG

For INSTANTANEOUS FORWARD CURRENT (A) vs. FORWARD VOLTAGE (V),
- Tj=25°C
- Pulse Width=300μs
- 1% Duty Cycle

FIG. 4- TYPICAL REVERSE CHARACTERISTICS PERLEG

For INSTANTANEOUS REVERSE CURRENT (μA) vs. PERCENT OF RATED PEAK REVERSE VOLTAGE (%),
- Tj=25°C
- Tj=125°C

FIG. 5- TYPICAL JUNCTION CAPACITANCE PERLEG

For JUNCTION CAPACITANCE (pF) vs. REVERSE VOLTAGE (V),
- f=10MHz
- Vsig=50mVp-p
- Tj=25°C