Commercial Pulsed Gunn Diodes

This series of pulsed Gunn diodes have very low average current drain and are used in motion detection systems, burglar alarms and door openers.

Specifications \( T_A = +25^\circ C \)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Case Style</th>
<th>Frequency(^{2,3,8}) Min./Max. (GHz)</th>
<th>Minimum(^{1,3,8}) Peak Power (mW)</th>
<th>Maximum Operating Voltage (Volts)</th>
<th>Maximum Operating Current (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA45870*</td>
<td>30</td>
<td>9.0/11.0</td>
<td>10.0</td>
<td>8.5</td>
<td>120</td>
</tr>
</tbody>
</table>

* Heat sink is anode.

Notes:
1. This power is delivered at a specified single frequency in the specified band.
2. The customer MUST specify the desired operating frequency within the indicated range.
3. Power is measured into a critically coupled load at a customer specified single frequency in the indicated range. Typical bandwidth is ± 5%. The minimum indicated output power is guaranteed into a critically coupled load over the indicated bandwidth centered around the frequency specified by the customer. Higher power diodes are available upon special request.

4. These diodes are designed to operate within a heat sink temperature range of -30°C to +70°C. However, for higher operating temperatures, please contact the factory.
5. The minimum threshold current is approximately 1.3 times the maximum operating current.
6. All diodes are burn-in for a minimum period of 8 hours at diode case temperature \( T_c \) of 70 ± 5°C and with CW dc bias.
7. Frequency chirp during 0.5 (μs) is typically less than 10 MHz in a waveguide cavity.
8. Maximum duty cycle is 1%. Maximum pulse width is 1 (μs).

Typical Performance Curves

OUTPUT POWER vs BIAS VOLTAGE OF A TYPICAL X-BAND GUNN DIODE

OUTPUT POWER vs BIAS VOLTAGE AND TEMPERATURE OF TYPICAL K-BAND GUNN DIODE