### Items | Specification | Unit
--- | --- | ---
Center frequency (Fo) | 428.000 | MHz
Bandwidth | 12000 | KHz
Pass band Ripple (p-p) | 2.0 | dB max

<table>
<thead>
<tr>
<th>Relative Attenuation</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>378.0 MHz ~ 411.0 MHz</td>
<td>50</td>
<td>dB max</td>
</tr>
<tr>
<td>411.5 MHz ~ 410.0 MHz</td>
<td>37</td>
<td>dB min</td>
</tr>
<tr>
<td>414.8 MHz ~ 417.8 MHz</td>
<td>14</td>
<td>dB min</td>
</tr>
<tr>
<td>422.0 MHz ~ 434.0 MHz</td>
<td>3.0</td>
<td>dB max</td>
</tr>
<tr>
<td>449.0 MHz ~ 478 MHz</td>
<td>50</td>
<td>dB min</td>
</tr>
</tbody>
</table>

DC Voltage, maximum | 10V |
RF Power Dissipation, maximum | 0 dBm |
In/Out Impedance | 50Ω |
Operation Temperature | -40°C to +85°C |
Storage Temperature | -45°C to +85°C |

### Dimension

![Dimension Diagram](image-url)
Frequency Characteristics

- REFLOW PROFILE

![Graph showing reflow profile with various temperature and time parameters labeled: TP (Peak Temperature), TL (Lower Temperature), TSMAX (Maximum Temperature), TSMIN (Minimum Temperature), tS (Preheat Time), tL (Time to Tl), tP (Time to Peak), Ramp-up, Critical Zone TL to TP, Ramp-down, and Time [sec].]
### Reflow profile

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Min Preheat</td>
<td>T_{\text{MIN}} 150°C</td>
</tr>
<tr>
<td>Temperature Max Preheat</td>
<td>T_{\text{MAX}} 200°C</td>
</tr>
<tr>
<td>Time (T_{\text{MIN}} to T_{\text{MAX}})</td>
<td>t_{\text{S}} 60-180 sec.</td>
</tr>
<tr>
<td>Temperature</td>
<td>T_{\text{L}} 217°C</td>
</tr>
<tr>
<td>Peak Temperature</td>
<td>T_{\text{P}} 260°C</td>
</tr>
<tr>
<td>Ramp-up rate</td>
<td>R_{\text{UP}} 3°C/sec max.</td>
</tr>
<tr>
<td>Ramp-down rate</td>
<td>R_{\text{DOWN}} 6°C/sec max.</td>
</tr>
<tr>
<td>Time within 5°C of Peak Temperature</td>
<td>t_{\text{DP}} 10 sec.</td>
</tr>
<tr>
<td>Time [25°C] to Peak Temperature</td>
<td>t_{\text{[25°C] to Peak}} 480 sec.</td>
</tr>
<tr>
<td>Time</td>
<td>t_{\text{L}} 60-150 sec.</td>
</tr>
</tbody>
</table>

### Environmental

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOISTURE SENSITIVITY LEVEL</td>
<td>1</td>
</tr>
<tr>
<td>REACH – SVHC</td>
<td>Compliant</td>
</tr>
<tr>
<td>RoHS 2</td>
<td>6/6</td>
</tr>
</tbody>
</table>

April 2016