90º HYBRID SURFACE MOUNT MODEL: SLQ-302

3:1 BANDWIDTH

20 - 60 MHz

FEATURES:
- Excellent Performance
- Small Size, Surface Mount
- Building Block For:
  - Power Amplifiers
  - Image Rejection Mixers
  - I & Q / SSB Modulators
  - Phase Shifters & More...

SPECIFICATIONS (Rev. F 09/18/18)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>20 - 60 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss (dB) *</td>
<td>Typ.</td>
</tr>
<tr>
<td></td>
<td>0.3</td>
</tr>
<tr>
<td>Amplitude Unbalance</td>
<td>Typ.</td>
</tr>
<tr>
<td></td>
<td>0.6</td>
</tr>
<tr>
<td>Phase Unbalance</td>
<td>Typ.</td>
</tr>
<tr>
<td></td>
<td>1°</td>
</tr>
<tr>
<td>Isolation (dB)</td>
<td>Typ.</td>
</tr>
<tr>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Input Power</td>
<td>1 Watt (Max.)</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ohms (Nom.)</td>
</tr>
<tr>
<td>VSWR</td>
<td>1.10:1 (Typ.)</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40 to +85 °C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-55 to +100 °C</td>
</tr>
</tbody>
</table>

* Insertion loss is the average loss of the 2 coupling values in excess of the theoretical 3 dB coupling.

Package # 159LF

Port Configuration

<table>
<thead>
<tr>
<th>Input</th>
<th>Isolated*</th>
<th>+90° Output</th>
<th>0° Output</th>
<th>GND.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3,4</td>
</tr>
</tbody>
</table>

* Terminate ISOLATED port in 50 Ohms EXTERNALLY.
** Ground Externally
90° HYBRID
SURFACE MOUNT MODEL: SLQ-302

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Data @ 25°C

Performance Plots

Insertion Loss (dB)

Frequency (MHz)

Phase Unbalance (deg.)

Frequency (MHz)
90º HYBRID
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Data @ 25ºC

**PERFORMANCE PLOTS**

- **Isolation (dB)**
  - Frequency (MHz): 20 to 60
  - Isolation ranges from 20 to 35 dB

- **Return Loss (dB)**
  - Frequency (MHz): 20 to 60
  - Return Loss ranges from 20 to 40 dB

S11, S22 (0 deg), S33 (90 deg), S44, S41

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90° HYBRID
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PERFORMANCE PLOTS

Group Delay (nSec) vs Frequency (MHz)