90° HYBRID
SURFACE MOUNT MODEL: SMQ-C68

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

SPECIFICATIONS (Rev. A 11/05/08)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>570 - 630 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss (dB) *</td>
<td>Typ. 0.3</td>
</tr>
<tr>
<td>Amplitude Unbalance</td>
<td>Typ. 0.45</td>
</tr>
<tr>
<td>Phase Unbalance</td>
<td>Typ. 2°</td>
</tr>
<tr>
<td>Isolation (dB)</td>
<td>Typ. 28</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>1.18:1 (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 in excess of the theoretical 3 dB coupling.

Port Configuration

<table>
<thead>
<tr>
<th>Input</th>
<th>Isolated*</th>
<th>+90° Output</th>
<th>0° Output</th>
<th>GND,**</th>
<th>No Conn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>7,8,9,10</td>
<td>2,5</td>
</tr>
</tbody>
</table>

* Terminate ISOLATED port in 50 Ohms EXTERNALLY.
** Ground Externally
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OPTIMIZED BANDWIDTH 570 - 630 MHz

Data @ 25°C

PERFORMANCE PLOTS
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OPTIMIZED BANDWIDTH
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PERFORMANCE PLOTS

Phase Unbalance (deg.) vs Frequency (MHz)

Return Loss (dB) vs Frequency (MHz)
90º HYBRID SURFACE MOUNT MODEL: SMQ-C68

OPTIMIZED BANDWIDTH 570 - 630 MHz

PERFORMANCE PLOTS

Data @ 25°C

Group Delay (nSec) vs Frequency (MHz)

570 575 580 585 590 595 600 605 610 615 620 625 630