90º HYBRID
PLUG-IN MODEL: DQP-15-150

WIDE BANDWIDTH
15 - 150 MHz

FEATURES:
► Ultar-Wide Bandwidth (10:1)
► Small Package Size
► Building Block For:
  - Amplifiers
  - Image Rejection Mixers
  - I & Q / SSB Modulators
  - Phase Shifters & More...

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Frequency</th>
<th>15 - 150 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss (dB)¹</td>
<td>Typ. 1.2  Max. 1.7</td>
</tr>
<tr>
<td>Amplitude Unbalance (dB)</td>
<td>Typ. 0.9  Max. 1.2</td>
</tr>
<tr>
<td>Phase Unbalance (Deg.)</td>
<td>Typ. ± 2.5  Max. ± 4.0</td>
</tr>
<tr>
<td>Isolation (dB)</td>
<td>Typ. 23  Min. 18</td>
</tr>
<tr>
<td>Power Rating</td>
<td>1 Watt (Max.)</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ohms (Nom.)</td>
</tr>
<tr>
<td>VSWR</td>
<td>1.2:1 (Typ)</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40 to +85 °C</td>
</tr>
</tbody>
</table>

¹ Insertion loss in excess of the theoretical 3 dB coupling.

<table>
<thead>
<tr>
<th>Package #</th>
<th>102</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORT CONFIGURATION</td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>Isolated*</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Terminate isolated port with 50 Ohms externally.

** Ground externally.
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Data @ 25°C

PERFORMANCE PLOTS

Frequency (MHz)

Coupling and Insertion Loss (dB)

S21
S31

Isolation (dB)

S41

Frequency (MHz)
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PERFORMANCE PLOTS

Return Loss (dB)

S11  S22  S33  S44

Phase Unbalance (deg.)

Frequency (MHz)
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PERFORMANCE PLOTS

![Graph showing group delay (nSec) vs. frequency (MHz) for DQP-15-150 at 25°C]