### Maximum Ratings
- **Operating Temperature:** -40°C to 85°C
- **Storage Temperature:** -55°C to 100°C
- **Power Input (as a splitter):** 1W max.

Permanent damage may occur if any of these limits are exceeded.

### Pin Connections
- **SUMPORT:** 1
- **PORT 1 (0°):** 5
- **PORT 2 (+90°):** 8
- **GROUND:** 2, 3, 6, 7
- **50 OHM TERM EXTERNAL:** 4

### Features
- Low insertion loss, 0.1 dB typ.
- High isolation, 31 dB typ.
- Good amplitude balance, 1.1 dB max.
- Excellent VSWR, 1.06:1 typ.

### Applications
- VHF
- Balanced amplifiers
- I&Q modulators

### Splitter Electrical Specifications

<table>
<thead>
<tr>
<th>FREQ. RANGE (MHz)</th>
<th>ISOLATION (dB)</th>
<th>INSERTION LOSS (dB)</th>
<th>PHASE UNBALANCE (Degrees)</th>
<th>AMPLITUDE UNBALANCE (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-75</td>
<td>31</td>
<td>0.1</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>0.4</td>
<td></td>
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</tbody>
</table>

### Typical Performance Data

<table>
<thead>
<tr>
<th>FREQUENCY (MHz)</th>
<th>TOTAL LOSS</th>
<th>AMPLITUDE UNBALANCE</th>
<th>ISOLATION (dB)</th>
<th>PHASE UNBALANCE (deg.)</th>
<th>VSWR S</th>
<th>VSWR 1</th>
<th>VSWR 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>65.00</td>
<td>2.75</td>
<td>3.43</td>
<td>0.68</td>
<td>32.04</td>
<td>89.63</td>
<td>1.04</td>
<td>1.05</td>
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<tr>
<td>65.50</td>
<td>2.78</td>
<td>3.39</td>
<td>0.61</td>
<td>31.99</td>
<td>89.64</td>
<td>1.04</td>
<td>1.05</td>
</tr>
<tr>
<td>66.00</td>
<td>2.80</td>
<td>3.36</td>
<td>0.56</td>
<td>31.85</td>
<td>89.63</td>
<td>1.04</td>
<td>1.05</td>
</tr>
<tr>
<td>66.75</td>
<td>2.86</td>
<td>3.32</td>
<td>0.46</td>
<td>31.79</td>
<td>89.58</td>
<td>1.04</td>
<td>1.05</td>
</tr>
<tr>
<td>67.50</td>
<td>2.90</td>
<td>3.26</td>
<td>0.36</td>
<td>31.67</td>
<td>89.62</td>
<td>1.04</td>
<td>1.03</td>
</tr>
</tbody>
</table>

### Notes
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B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits’ applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, “Standard Terms”); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits’ website at www.minicircuits.com/MCLStore/terms.jsp

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

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**Surface Mount Power Splitter/Combiner**

**SYPQ-70+**

**2 Way-90°  50Ω  65 to 75 MHz**

**Features**
- Low insertion loss, 0.1 dB typ.
- High isolation, 31 dB typ.
- Good amplitude balance, 1.1 dB max.
- Excellent VSWR, 1.06:1 typ.

**Applications**
- VHF
- Balanced amplifiers
- I&Q modulators

**Outline Drawing**

**Outline Dimensions (inches/mm)**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
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</thead>
<tbody>
<tr>
<td>.38</td>
<td>.50</td>
<td>.25</td>
<td>.020</td>
<td>.035</td>
<td>.050</td>
<td>.140</td>
<td>.180</td>
</tr>
</tbody>
</table>

**Suggested Layout, Tolerance to be within ±.002**

**Demo Board MCL P/N: TB-265**

**Suggested PCB Layout (PL-138)**

**PCB Land Pattern**

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**REV E**

**HY2S-70+**

**00770A09032004**

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