BPSK MODULATORS
SURFACE MOUNT MODEL: SBM-K5
1000 - 1650 MHz

FEATURES:
► Optimized Bandwidth
► Good Phase & Amplitude Balance
► Small Size

APPLICATIONS:
► BPSK Modems
► Wired & Wireless Networks

SPECIFICATIONS (Rev. B 01/13/21)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier Frequency</td>
<td>1000 - 1650 MHz</td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>Typ. 6.0 Max. 7.2</td>
</tr>
<tr>
<td>Phase Unbalance (Deg.) *</td>
<td>Typ. ±4.0 Max. ±6.0</td>
</tr>
<tr>
<td>Amplitude Unbalance (dB)</td>
<td>Typ. 0.6 Max. 0.8</td>
</tr>
<tr>
<td>1 dB Compression Point</td>
<td>0 dBm (Nom.)</td>
</tr>
<tr>
<td>VSWR</td>
<td>1.8:1 (Typ.)</td>
</tr>
<tr>
<td>Modulation (D1,D2)</td>
<td>±20 mA</td>
</tr>
<tr>
<td>Modulation Bandwidth</td>
<td>&lt;10% of carrier frequency</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ohms (Nom.)</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40 to +85 °C</td>
</tr>
</tbody>
</table>

* From 0º/180º states
Note: Maximum RF input power without damage is 150 mW or ±40 mA.

Package # 134LF

PORT CONFIGURATION

<table>
<thead>
<tr>
<th>Input (LO)</th>
<th>Output (RF)</th>
<th>D1</th>
<th>D2</th>
<th>GND.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>2,5</td>
</tr>
</tbody>
</table>

FUNCTIONAL DIAGRAM

RECOMMENDED PCB LAYOUT

TOLERANCES ON THREE
DECIMAL PLACES = ± 0.015
PACKAGE MOUNTING SEE APPLICATION NOTE AN7200 & AN7300
BPSK MODULATORS
SURFACE MOUNT MODEL: SBM-K5

1000 - 1650 MHz

PERFORMANCE PLOTS

Insertion Loss/Amplitude Unbalance (dB)

Frequency (MHz)

D1=+20 mA, D2=-20mA
D1=-20 mA, D2=+20 mA

Phase Unbalance (degrees)

Frequency (MHz)
BPSK MODULATORS
SURFACE MOUNT MODEL: SBM-K5

1000 - 1650 MHz

PERFORMANCE PLOTS

Return Loss (dB)

Frequency (MHz)

Input
Output

Graph showing the return loss and frequency for the SBM-K5 model.