# 0 dBm to +20 dBm FREQUENCY DOUBLERS

**FEATURES**
- Broadband: 50 KHz to 2000 MHz
- Low Conversion Loss: Typically less than 12.5 dB
- High Spurious Rejection: Typically greater than 40 dB
- High Reliability: 100% tested, one year guarantee

**GK SERIES**
- Connectors: BNC or TNC
- Compact: 2.25” width, 1.4” height, 1.15” depth
- Low Cost: As low as $30.95 in small quantity

**MK SERIES**
- Connectors: SMA (3mm)
- Miniature: 1.5” width, 1.15” height, 0.88” depth
- Low Cost: As low as $39.95 in small quantity

**FK SERIES**
- Connectors: BNC, TNC, SMA, Type N
- Low Profile: 1.25” width, 0.75” height, 1.25” depth
- Low Cost: As low as $59.95 in small quantity

**APPLICATIONS**
- Wideband frequency multiplier chains
- Low spurious frequency multiplier chains
- FM, PM modulation chains
- Double frequency range of signal generators

**ABSOLUTE MAXIMUM RATINGS**
- Input Power: 100 mW
- Operating and Storage Temperature: -55°C to +100°C
- Environmental Specifications: See Index Page

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**DESCRIPTION**
These frequency doublers are economically priced while covering the very broad frequency range from 50 KHz to 2000 MHz. They offer a very low conversion loss, 12.5 dB, and high spurious rejection 40 dB. These doublers give exceptional unit to unit matched performance.

They operate with 50 ohm impedances at input and output ports and are not very sensitive to input power, and perform well from 0 dBm to +20 dBm input.

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**DIMENSIONS AND CONNECTIONS**

**GK Series**
The GK Series packages are rugged double shielded to meet tough RFI requirements. The case is die-cast aluminum finished with a blue baked-enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.

**MK Series**
The MK Series packages are rugged double shielded to meet tough RFI requirements. The case is die-cast aluminum finished with a blue baked-enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.

**FK Series**
The FK Series is housed in an extremely rugged 14” square metal case with one connector on each of two sides.

**WEIGHT**
- 74 grams / 2.6 ounces
- 34 grams / 1.2 ounces
- 54.5 grams / 1.92 ounces

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**MINI-CIRCUITS**
2825 E. 14th St., Brooklyn, NY 11235 (212) 769-0200/Dom. Telex 125460/Intl. Telex 620156
GK, MK and FK Series
50 KHz to 2000 MHz

**MINI-CIRCUITS**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Frequency Range, MHz</th>
<th>RF Input Power Full Range</th>
<th>Conversion Loss, dB</th>
<th>Spurious Harmonic Output, dB Relative to F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GK-2 MK-2</td>
<td>1-500 2-1000</td>
<td>+1 dBm to +15 dBm</td>
<td>1-100</td>
<td>13</td>
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<td>100-300</td>
<td>13.5</td>
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<td>300-500</td>
<td>14.0</td>
</tr>
<tr>
<td>GK-3 MK-3</td>
<td>0.5-150 1-300</td>
<td>+0 dBm to +13 dBm</td>
<td>0.5-50</td>
<td>11</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>50-150</td>
<td>11.5</td>
</tr>
<tr>
<td>GK-5 MK-5</td>
<td>10-1000 20-2000</td>
<td>+10 dBm to +20 dBm*</td>
<td>10-600</td>
<td>13</td>
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<tr>
<td></td>
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<td></td>
<td>600-1000</td>
<td>14</td>
</tr>
</tbody>
</table>

* For GK-5/MK-5/FK-5 full range is +13 dBm to +20 dBm above 700 MHz.

**MODELS GK-2, GK-3, MK-2, MK-3**

**CONVERSION LOSS vs FREQUENCY**

**REJECTION vs INPUT FREQUENCY**

**POWER OUTPUT vs INPUT POWER**

**MODELS GK-5, MK-5, FK-5**

**CONVERSION LOSS vs FREQUENCY**

**REJECTION vs INPUT FREQUENCY**

**POWER OUTPUT vs INPUT POWER**

**TYPICAL EVEN ORDER HARMONIC RESPONSE**

PROMPT SERVICE / ONE WEEK DELIVERY