Ceramic Frequency Mixer WIDE BAND  

**Level 7 (LO Power+7 dBm)**  300 to 2400 MHz

### Maximum Ratings
- **Operating Temperature**: -55°C to 100°C
- **Storage Temperature**: -55°C to 100°C
- **RF Power**: 50 mW
- **IF Current**: 40 mA

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

### Pin Connections
- **LO**: 10
- **RF**: 5
- **IF**: 3
- **GROUND**: 1, 2, 4, 6, 7, 8, 9

### Features
- Wide bandwidth, 300 to 2400 MHz
- Low conversion loss, 6.1 dB typ.
- Excellent L-R isolation, 40 dB typ.
- LTCC double balanced mixer
- Aqueous washable
- Low cost
- Low profile, 0.08"
- Protected by US Patent 7,027,795

### Applications
- Cellular
- PCN
- Defense & Weather Radar
- UHF TV
- WCDMA
- Defense Communications

### Electrical Specifications (T_{AMB}=-55°C to 100°C)

** Electrical Specifications **

<table>
<thead>
<tr>
<th>FREQUENCY (MHz)</th>
<th>CONVERSION LOSS (dB)</th>
<th>LO-RF ISOLATION (dB)</th>
<th>LO-IF ISOLATION (dB)</th>
<th>IP3 at center band (dBm)</th>
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</thead>
<tbody>
<tr>
<td>300-2400</td>
<td>DC-700</td>
<td>6.1</td>
<td>0.1</td>
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1 dB COMPR. +1 dBm typ.

### Typical Performance Data

** Typical Performance Data **

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Conversion Loss (dB)</th>
<th>L-R (dB)</th>
<th>LO-RF Isolation (dB)</th>
<th>LO-IF Isolation (dB)</th>
<th>VSWR RF Port (~1)</th>
<th>VSWR LO Port (~1)</th>
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<td>23.81</td>
<td>3.39</td>
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</table>

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### Recommended Replacement:
- **MAC-24+**
  - Footprint Compatible
  - MIL Level Reliability

** Electrical Schematic **

** Notes **
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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Performance Charts

MCA1-24+

**MCA1-24+ CONVERSION LOSS**

**MCA1-24+ CONVERSION LOSS (VARIABLE IF)**

**MCA1-24+ L-R ISOLATION**

**MCA1-24+ L-I ISOLATION**

**MCA1-24+ RF VSWR**

**MCA1-24+ LO VSWR**

**MCA1-24+ IF VSWR**

**MCA1-24+ IP3**

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www.minicircuits.com  P.O. Box 350166, Brooklyn, NY 11235-0003  (718) 934-4500  sales@minicircuits.com