The Big Deal:
- Small size 3.2mm x 2.5 mm
- High Power handling (8W)
- High rejection (20 dB typ)
- Ceramic construction

Product Overview:
New High Pass Filter HFCV-145+ is an LTCC based 7 section design, that extends the lower frequency cutoff range of the existing HFCN series to 145 MHz. Systems that previously relied on active or lumped element filtering to support these lower frequencies can save power and system complexity by integrating the HFCV-145+ into new designs. These filters are offered in a EIA 1210 package size and have a typical stop band rejection of 20 dB.

Summary Performance

<table>
<thead>
<tr>
<th>Feature</th>
<th>Advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Size (3.2mm x 2.5 mm)</td>
<td>Available in the size of typical resistors or capacitors (EIA 1210), the ultra small HFCV series integrates up to 7 low pass sections in a simple SMT chip form factor.</td>
</tr>
<tr>
<td>High Power Handling</td>
<td>The HFCV series can withstand up to 8W CW signal without damage making this filter ideal for use in medium power to transmit paths.</td>
</tr>
<tr>
<td>Temperature Stability</td>
<td>Over a 155°C operating temperature range (-55°C to +100°C), the HFCV series ceramic filters typically exhibit less than 0.2 dB pass band insertion loss variation.</td>
</tr>
<tr>
<td>High Rejection</td>
<td>Achieving 20dB rejection @ 80 MHz; the HFCV-145+ provides a versatile high pass configuration for many up converter applications.</td>
</tr>
</tbody>
</table>

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.
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
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**Ceramic High Pass Filter**

50Ω  140 to 1150 MHz

**Maximum Ratings**
- Operating Temperature: -55°C to 100°C
- Storage Temperature: -55°C to 100°C
- RF Power Input*: 8.5W max. at 25°C
*Passband rating, derate linearly to 3.5W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

**Pin Connections**
- RF IN: 1
- RF OUT: 3
- GROUND: 2, 4

**Features**
- low cost
- small size
- 7 sections
- temperature stable
- dc block in/out, breakdown voltage, 1kV typ.
- excellent power handling, 8.5W
- hermetically sealed

**Applications**
- sub-harmonic rejection and dc blocking
- transmitters/receivers
- lab use

**Electrical Specifications**

### Typical Frequency Response

- DC - 40 dB
- Attenuation (dB)

### Typical Performance Data at 25°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>F#</th>
<th>Frequency (MHz)</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop Band Rejection Loss</td>
<td>DC-F1</td>
<td>DC-80</td>
<td>20</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Freq. Cut-Off VSWR</td>
<td>F3</td>
<td>132</td>
<td>3.0</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>DC-F2</td>
<td>DC-115</td>
<td>15</td>
<td>3.0</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Pass Band Insertion Loss</td>
<td>F5-F6</td>
<td>155-1050</td>
<td>1.5</td>
<td>3.0</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>VSWR F5-F7</td>
<td>F4-F7</td>
<td>140-1150</td>
<td>1.5</td>
<td></td>
<td></td>
<td>:1</td>
</tr>
<tr>
<td>F4-F7</td>
<td>155-1150</td>
<td>1.5</td>
<td></td>
<td></td>
<td>:1</td>
<td></td>
</tr>
</tbody>
</table>

* Measured on Mini-Circuits Characterization Test Board TB-526+.

**Electrical Schematic**

**Typical Frequency Response**

**Case Style:** JV1210C

**Features**
- low cost
- small size
- 7 sections
- temperature stable
- dc block in/out, breakdown voltage, 1kV typ.
- excellent power handling, 8.5W
- hermetically sealed

**Applications**
- sub-harmonic rejection and dc blocking
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