**WIDEBAND RF TRANSFORMERS**
Upstream Transformers for Set-Top Box and Cable Modem Applications

- Optimized for 5-80 MHz operating frequency
- Less than 20 dB return loss
- Excellent insertion loss
- Operating temperature of -40°C to +85°C

### Electrical Specifications @ 25°C — Operating Temperature -40°C to +85°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Impedance Ratio¹ Pri:Sec (±2%)</th>
<th>Turns Ratio Pri:Sec (±2%)</th>
<th>Bandwidth ²,³ (MHz TYP)</th>
<th>Insertion Loss @ Midband (dB TYP)</th>
<th>OCL Primary (µH MIN)</th>
<th>Return Loss° 5 MHz - 65 MHz (dB TYP)</th>
<th>Schem.</th>
<th>Primary Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2020</td>
<td>1CT:1CT</td>
<td>1CT:1CT</td>
<td>150-210</td>
<td>.350-90</td>
<td>54</td>
<td>35</td>
<td>&gt;20 dB</td>
<td>A</td>
</tr>
<tr>
<td>C2022</td>
<td>1:4CT</td>
<td>1:2CT</td>
<td>100-500</td>
<td>.150-390</td>
<td>45</td>
<td>50</td>
<td>&gt;20 dB</td>
<td>B</td>
</tr>
</tbody>
</table>

**NOTE:** Optional Tape & Reel packaging can be ordered by adding a “T” suffix to the part number (ex: C2020T).

### Mechanical

#### 1:4CT 1:2CT

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### Schematics

**Electrical Specifications:**
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**Mechanical Schematics**

- Dimensions: Inches
- Weight: .6 grams
- Tape & Reel: .500/reel
- Tube: .70/tube
- Unless otherwise specified, all tolerances are ± .010

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APPLICATION NOTES

A. These transformers have been optimized for use in the upstream interface for cable modems and set-top box applications. The 5-80 MHz frequency range is well-suited for MCNS-DOC-SIS, Euro-DOCSIS/Davic/DVB product development.

B. Bandwidth specifications are for a 75 Ω system.

C. Materials used in the products are UL94-V0 recognized. Products meet the requirements of IEC 695-2-2 (Needle Flame Test).

NOTES FROM TABLES

1. Impedance and turns ratios are specified primary:secondary. (CT=Center Tap).
2. Bandwidth is referenced to midband loss.
3. The insertion loss of these transformers is verified from -40°C to +85°C. Insertion loss over this temperature range is less than 1 dB from 5-80 MHz (relative to midband loss).
4. Return loss performance changes with change in temperature.

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For More Information:

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