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





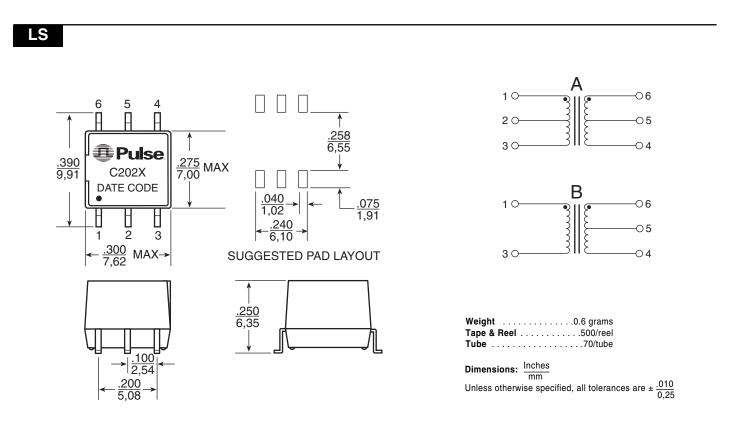
- Optimized for 5-80 MHz operating frequency
- Less than 20 dB return loss
- Excellent insertion loss
- Operating temperature of -40°C to +85°C

#### Electrical Specifications @ 25°C -- Operating Temperature -40°C to +85°C Turns Ratio Return Loss<sup>4</sup> Bandwidth 2,3 Impedance Ratio<sup>1</sup> Insertion Loss Part **OCL** Primary Primary Schem. 5 MHz - 65 MHz Pri:Sec @ Midband Pri:Sec (MHz TYP) Number (µH MIN) Pins (±2%) (±2%) (dB TYP) (dB TYP) 3 dB 2 dB 1 dB 1CT:1CT C2020 1CT:1CT .54 .150-210 .200-150 .350-90 35 >20 dB A 1-3 1:4CT 1:2CT .100-500 .300-220 50 >20 dB В 1-3 C2022 150-390 45

**NOTE:** Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (ex: C2020**T**).

### Mechanical

### **Schematics**



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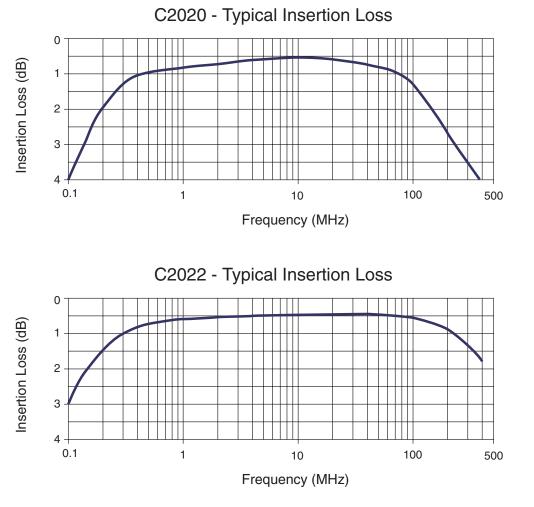
### **Application Notes**

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.

## **Notes from Tables**

- 1. Impedance and turns ratios are specified primary:secondary. (CT=Center Tap).
- 2. Bandwidth is referenced to midband loss.

- B. Bandwidth specifications are for a 75  $\Omega$  system.
- C. Materials used in the products are UL94-V0 recognized. Products meet the requirements of IEC 695-2-2 (Needle Flame Test).
- 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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### PRELIMINARY C200.P (2/00)