

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

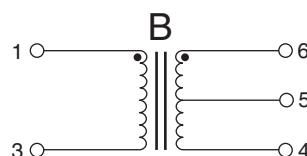
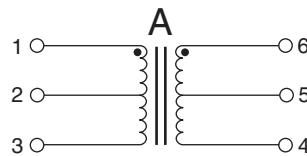
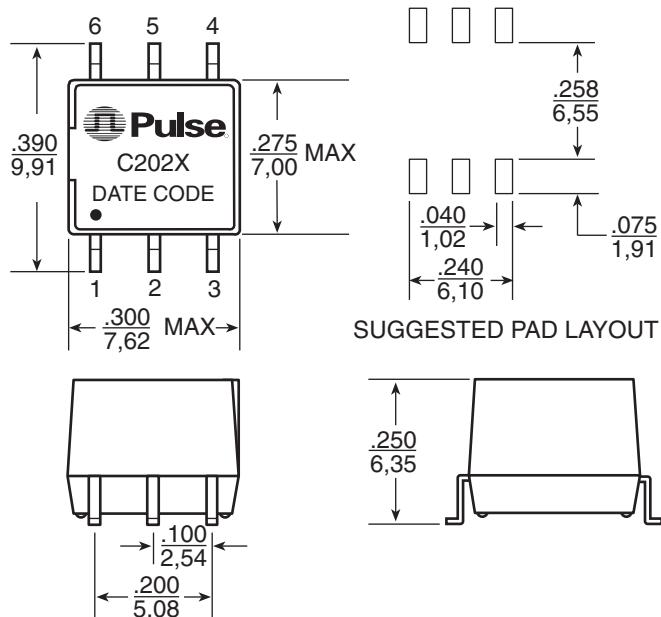
Part Number	Impedance Ratio ¹ Pri:Sec (±2%)	Turns Ratio Pri:Sec (±2%)	Bandwidth ^{2,3} (MHz TYP)			Insertion Loss @ Midband (dB TYP)	OCL Primary (μ H MIN)	Return Loss ⁴ 5 MHz - 65 MHz (dB TYP)	Schem.	Primary Pins
			3 dB	2 dB	1 dB					
C2020	1CT:1CT	1CT:1CT	.150-210	.200-150	.350-90	.54	35	>20 dB	A	1-3
C2022	1:4CT	1:2CT	.100-500	.150-390	.300-220	.45	50	>20 dB	B	1-3

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

Mechanical

Schematics

LS



Weight 0.6 grams
Tape & Reel 500/reel
Tube 70/tube

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified, all tolerances are $\pm \frac{.010}{0.25}$

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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-DOCSIS, Euro-DOCSIS/Davic/DVB product development.

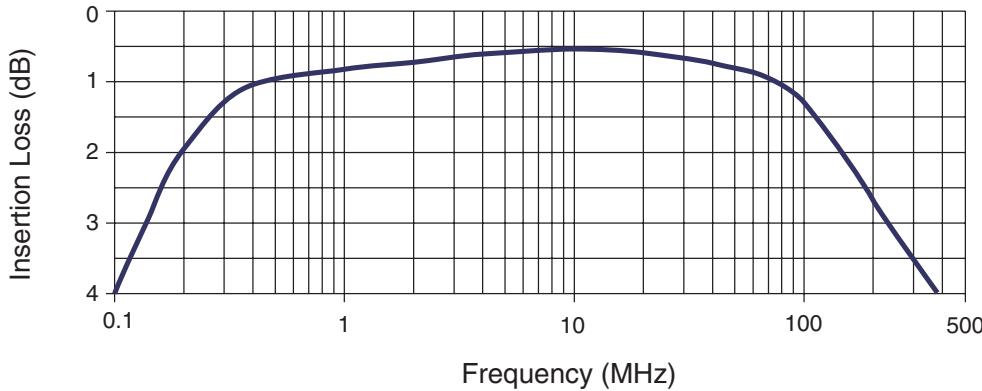
B. Bandwidth specifications are for a $75\ \Omega$ system.

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

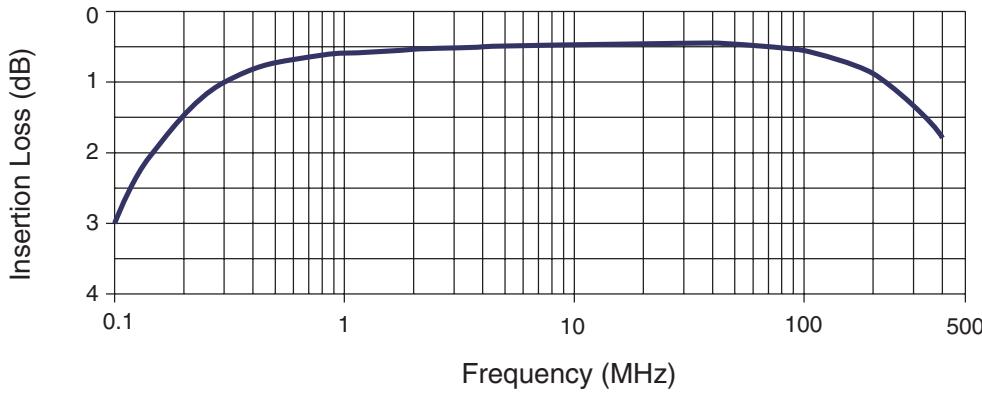
Notes from Tables

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 $+85^{\circ}\text{C}$. 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.

C2020 - Typical Insertion Loss



C2022 - Typical Insertion Loss



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