

# RF TRANSFORMERS

## Transformers for Wideband RF Applications



- Miniature surface mount package
- Various impedance ratios available
- Excellent insertion loss
- Ideal for Balanced-to-Unbalanced applications
- Products from 0.5 to 1500MHz bandwidth

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

| Part Number | Impedance Ratio <sup>1</sup><br>Pri:Sec<br>(±2%) | Turns Ratio<br>Pri:Sec<br>(±2%) | Bandwidth <sup>2,3</sup><br>(MHz TYP) |          |          | Insertion Loss<br>@ Midband<br>(dB TYP) | Schematic | Primary Pins |
|-------------|--|---------------------------------|---------------------------------------|----------|----------|---|-----------|--------------|
|             |  |                                 | 3dB                                   | 2dB      | 1dB      |   |           |              |
| CX2041      | 1:1CT  | 1:1CT                           | 0.05-450                              | 0.75-300 | 0.10-200 | 0.60                                    | B         | 4-6          |
| CX2040L     | 1:1  | 1:1                             | 1.5-500                               | 2.5-400  | 5-350    | 0.90                                    | A         | 4-6          |
| CX2043L     | 1.5:1  | √1.5:1                          | –                                     | –        | 1-1000   | 0.20                                    | D         | 3-6          |
| CX2044L     | 1.5:1  | √1.5:1                          | –                                     | 1.0-500  | 5-100    | 0.20                                    | A         | 1-3          |
| CX2045L     | 1:2CT  | 1:1.414CT                       | –                                     | –        | 3-300    | 0.80                                    | B         | 4-6          |
| CX2047L     | 1:4CT  | 1:2CT                           | –                                     | 0.5-300  | 1.5-100  | 0.24                                    | B         | 4-6          |
| CX2049L     | 1:8CT  | 1:2.83CT                        | 0.1-500                               | 0.3-400  | 0.5-200  | 1.16                                    | B         | 4-6          |
| CX2029      | 36:1CT   | 6:1CT                           | 0.05-21                               | –        | –        | 0.40                                    | B         | 4-6          |

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

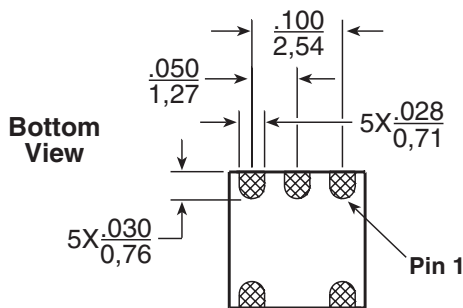
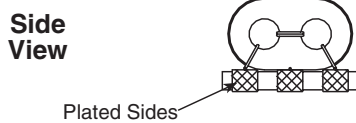
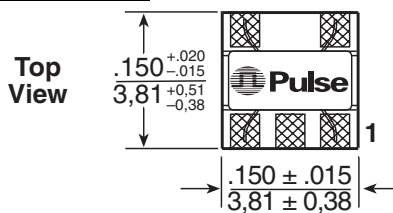
| Part Number | Impedance Ratio <sup>1</sup><br>Pri:Sec<br>(±2%) | Bandwidth <sup>2,3</sup><br>(MHz TYP) |          | Schematic | Primary Pins |
|-------------|--|---------------------------------------|----------|-----------|--------------|
|             |  | 2dB                                   | 1dB      |           |              |
| CX2038L     | 75Ω:75Ω  | Up to 1500                            | 4.5-1000 | C         | 4-6          |
| CX2039L     | 50Ω:50Ω  | Up to 1500                            | 4.5-1000 | C         | 4-6          |

NOTE: Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (ex: CX2041T).

## Mechanical

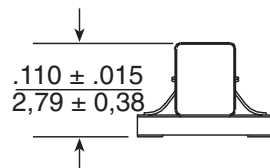
## Schematics

### RACKET-LITE

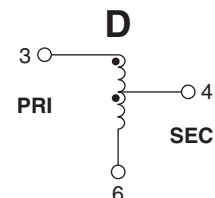
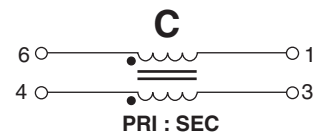
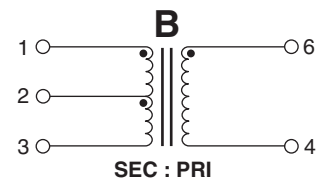
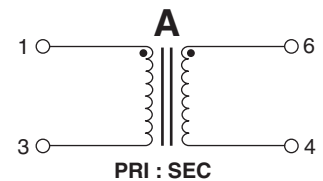


Tape & Reel .....1000 /reel  
Tray .....100 /tray  
Power Rating .....30 mA MAX; 0.25 W MAX

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
Unless otherwise specified, all tolerances are  $\pm \frac{.010}{.025}$



### SUGGESTED PAD LAYOUT



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## Transformers for Wideband RF Applications



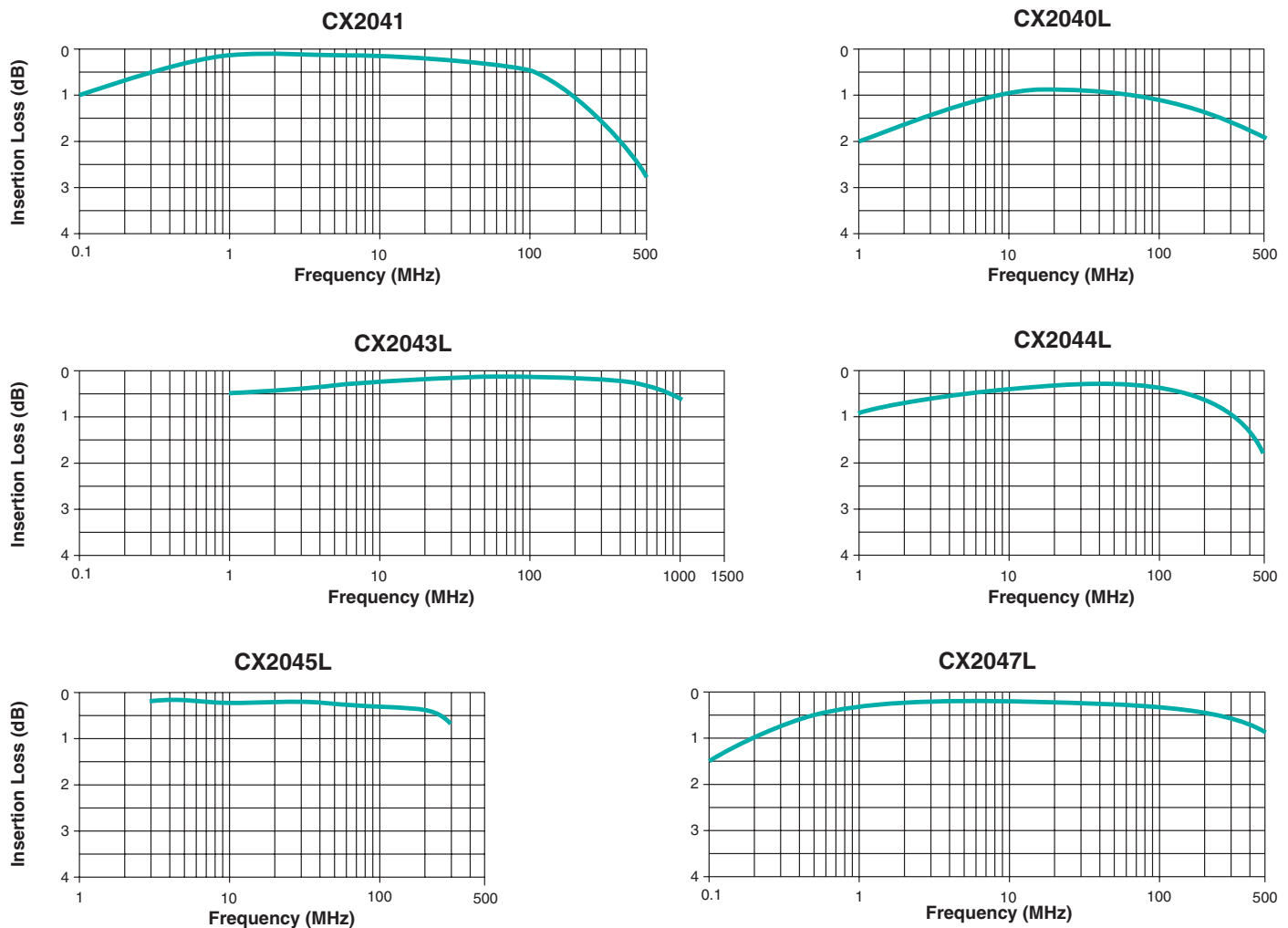
### Application Notes

- A. Bandwidth specifications for **CX2040** and **CX2047** are for a 50Ω system.
- B. Materials used in the products are UL94-V0 recognized. Products meet requirements of IEC 695-2-2 (Needle Flame Test).
- C. **CX2038**, **CX2039** and **CX2043** transformer configurations do not provide DC isolation between primary and secondary windings.
- D. For additional impedance ratios and frequency ranges, please contact Pulse Applications Engineering.
- E. Pick and place operation: smooth upper surface of device allows automatic pick and place.
- F. For availability of Lead-Free version of this product, please contact Pulse.

### Notes from Tables

- 1. Impedance & turns ratios are specified primary:secondary. (CT=Center Tap).
- 2. Bandwidth is referenced to midband loss.
- 3. These transformers are verified to operate from -40°C to +85°C. Contact Pulse Applications Engineering for performance data.

### Typical Insertion Loss @ 25°C

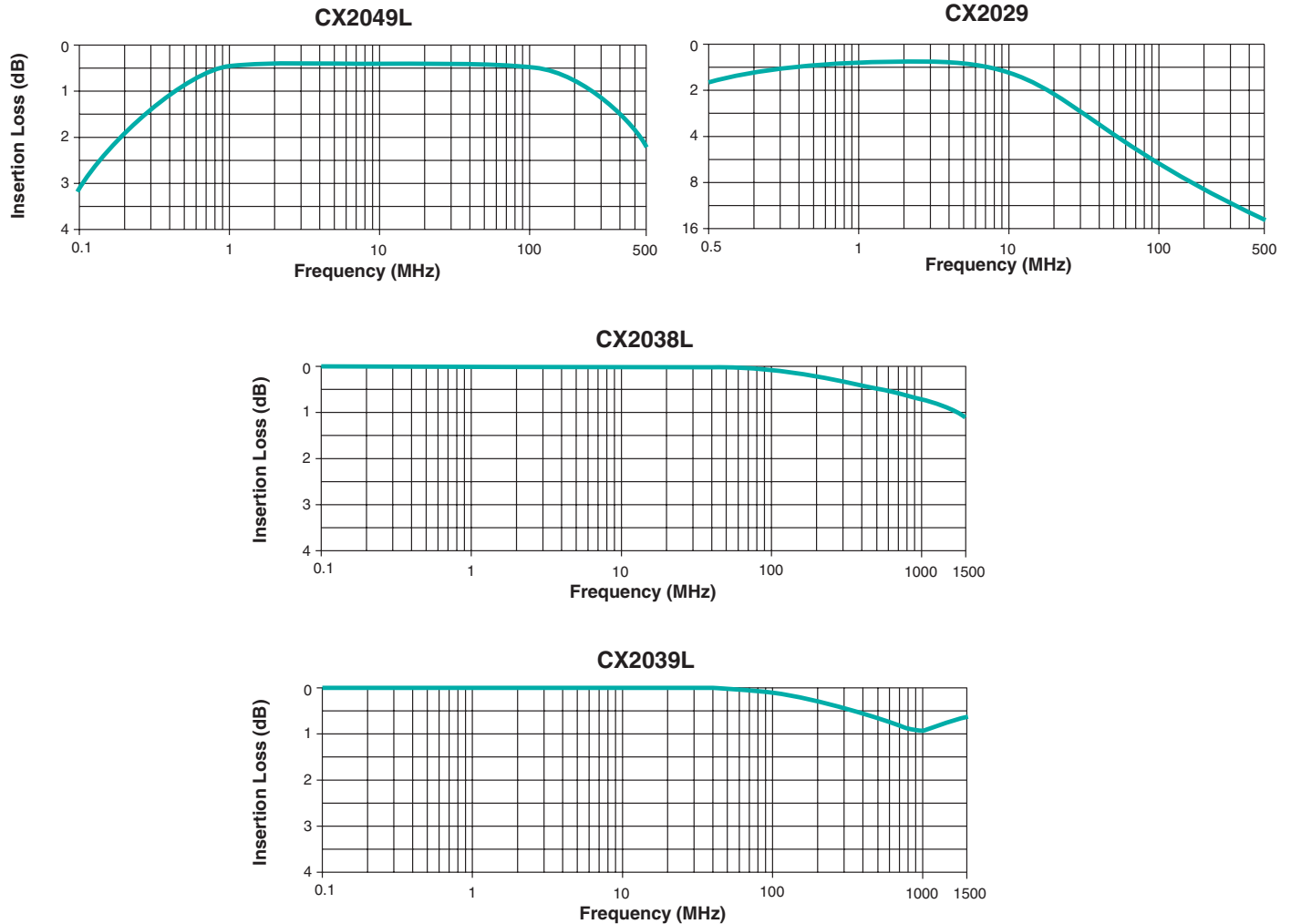


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### Typical Insertion Loss @ 25°C



### For More Information:

| Pulse Worldwide Headquarters   | Pulse Northern Europe  | Pulse Southern Europe   | Pulse China Headquarters   | Pulse North China  | Pulse South Asia  | Pulse North Asia   |
|--|--|---|--|--|---|--|
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