

1:1 Transmission Line Transformer 50 - 1200 MHz

Rev. V4

Features

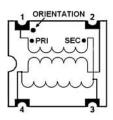
- Surface Mount Technology
- 1:1 Impedance
- Excellent Temperature Stability
- · Available on Tape & Reel

Description

MABA-008483-CT1760 is a welded surface mount technology 1:1 transmission line transformer designed for high volume CATV Broadband applications.

Suitable for use in 50 Ω and 75 Ω systems.

Functional Schematic



Pin Configuration³

| Pin# | Function | Pin# | Function |
|------|-------------|------|---------------|
| 1 | Primary Dot | 3 | Secondary Dot |
| 2 | Secondary | 4 | Primary |

Electrical Specifications: Freq. = 50 - 1200 MHz, T_A = +25°C, Z_0 = 75 Ω

| Parameter | Frequency Test Conditions (MHz) | Units | Min. | Тур. | Max. |
|--------------------------|---------------------------------|-------|------|-------|-------|
| | 50 | | | 0.13 | 0.33 |
| Insertion Loss 1 | 870 | dB | _ | 0.53 | 0.93 |
| (Through) pin 3 to pin 1 | 1002 | | | 0.63 | 1.18 |
| - | 1200 | | | 0.83 | 1.93 |
| | 50 | dB | | 0.43 | 0.47 |
| Insertion Loss 2 | 870 | | | 0.33 | 0.63 |
| (Coupled) pin 2 to pin 1 | 1002 | | | 0.43 | 0.78 |
| | 1200 | | | 0.63 | 1.33 |
| | 50 | dB | _ | 0.3 | -0.6 |
| Amplitude Delence | 870 | | | -0.1 | +0.7 |
| Amplitude Balance | 1002 | | | -0.2 | +0.7 |
| | 1200 | | | -0.2 | +0.8 |
| Disease Delegas | 50 - 1002 | · | 1.2 | ± 4.0 | |
| Phase Balance | 1002 - 1200 | | | 3.2 | ± 8.0 |
| | 50 - 500 | | 18.0 | 23.0 | |
| Input Return Loss | 500 - 1002 | dB | 17.5 | 19.0 | _ |
| · | 1002 - 1200 | | 11.0 | 18.0 | |

Ordering Information

| Part Number | Package | |
|--------------------|---------------------|--|
| MABA-008483-CT1760 | 900 piece reel | |
| MABA-008483-CT17TB | Customer Test Board | |

Recommended Maximum Ratings^{1,2}

| Parameter | Absolute Maximum | |
|------------------------------------|------------------|--|
| Input Power | 250 mW | |
| DC Current | 30 mA | |
| Operating & Storage Temperature | -40°C to +85°C | |

- 1. Exceeding any one or combination of these limits may cause permanent damage to this device.
- MACOM does not recommend sustained operation near these survivability limits.

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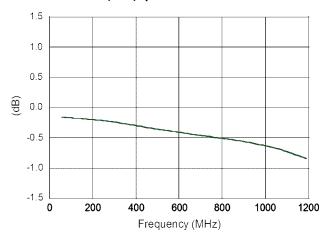
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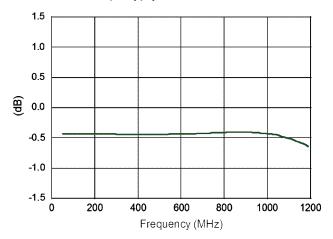
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Typical Performance Curves

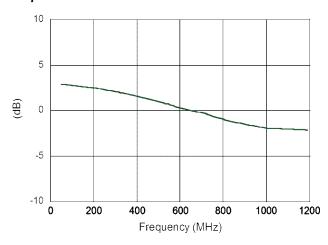
Insertion Loss 1 (thru): pin 3-1



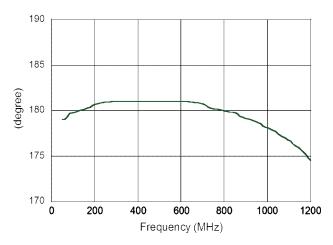
Insertion Loss 2 (coup); pin 2-1



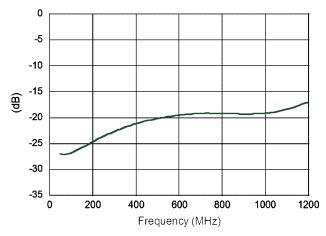
Amplitude Balance



Phase Balance



Return Loss: Input



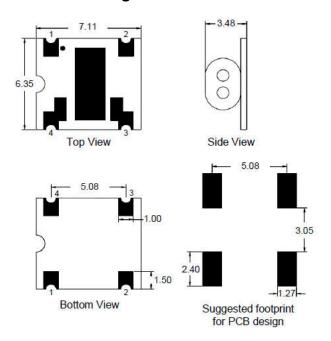


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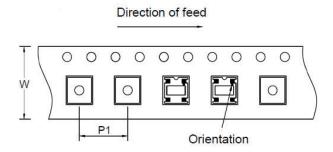
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Outline Drawing^{3,4}



- 3. Dimensions in mm.
- 4. Tolerance: ±0.2 mm unless otherwise noted.

Carrier Tape Orientation



Tape & Reel Information

| Parameter | Units | Value | |
|--|-------|-------|--|
| Qty per reel | - | 900 | |
| Reel Size | mm | 330 | |
| Tape Width | mm | 16.0 | |
| Pitch | mm | 12.0 | |
| Orientation | - | F60 | |
| Reference Application Note ANI-019 for orientation | | | |



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