

MABACT0034



Transformer, 1:1 Transmission Line Transformer
4.5 to 3000 MHz

Rev. V3

Features

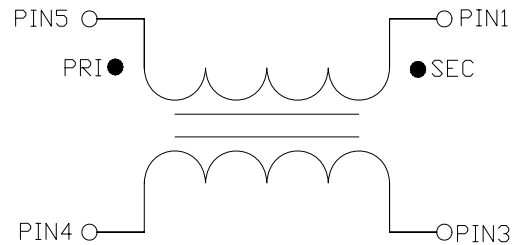
- 1:1 Impedance ratio
- Surface mount
- Available on tape and reel
- 260°C reflow compatible
- Excellent temperature stability
- Excellent amplitude and phase balance
- Can be used in both 50Ω and 75Ω systems

Description

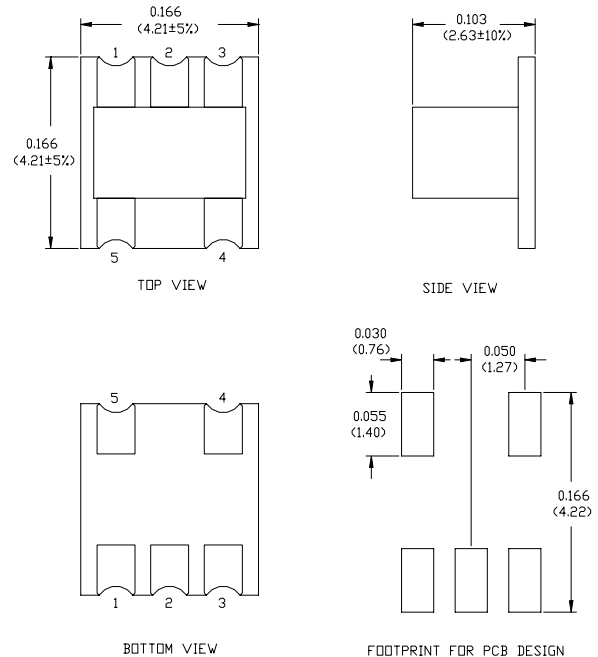
M/A-Com Technology Solutions MABACT0034 is a 1:1 RF transmission line transformer in a low cost, surface mount package. Ideally suited for broadband CATV applications.



Schematic



Component dimensions



Pin Configuration

| Pin no. | Function |
|---------|---------------|
| 1 | Secondary Dot |
| 2 | Not connected |
| 3 | Secondary |
| 4 | Primary |
| 5 | Primary Dot |

Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010,

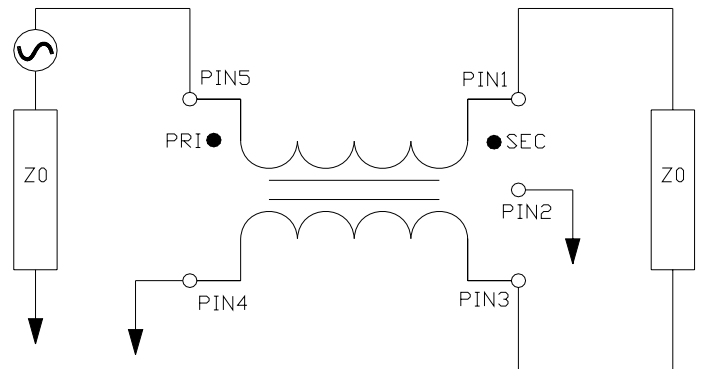
Electrical Specifications: $T_A = 25^\circ\text{C}$, 0dBm, $Z_0 = 75\Omega$, $P_{in} = 0\text{dBm}$

| Parameter | Frequency | Units | Min | Typ | Max |
|---------------------------------|-----------------|-------|-----|------------|------------|
| Insertion Loss 1 | 4.5 - 1000MHz | dB | - | 0.8 | 1.0 |
| | 1000 - 2000MHz | dB | - | 1.6 | 2.0 |
| | 2000 - 3000 MHz | dB | - | 2.5 | 3.5 |
| Amplitude Balance (Nominal 0dB) | 4.5 - 3000 MHz | dB | - | ± 0.50 | ± 1.0 |
| Phase Balance (Nominal 180°) | 4.5 - 3000 MHz | ° | - | ± 10.0 | ± 20.0 |
| | | | | | |

Recommended Maximum Ratings

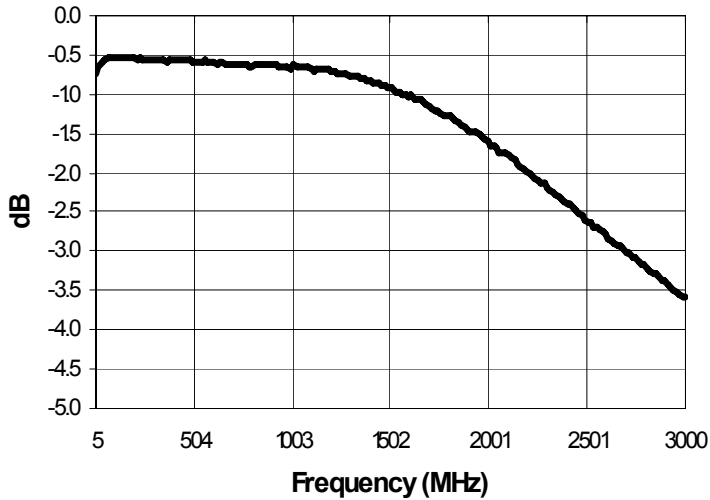
| Parameter | Value |
|-----------------------|-----------------|
| Input power | At least 250mW |
| DC current | At least 30mA |
| Operating Temperature | -40°C to +85°C |
| Storage Temperature | -55°C to +100°C |

Application Circuit

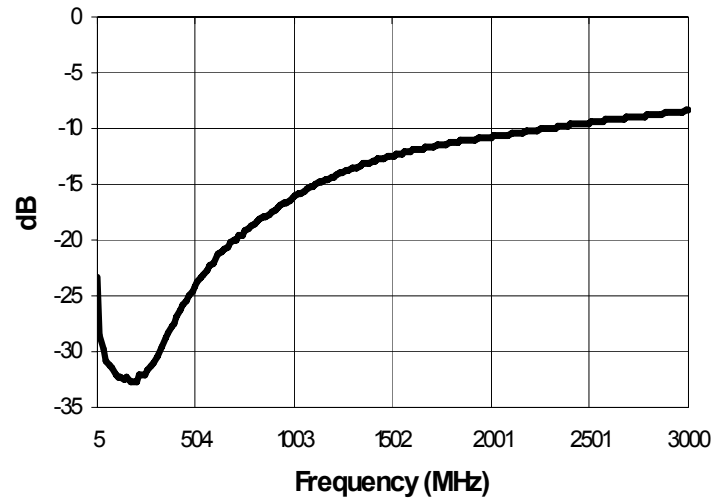


Typical Performance Curves: $T_A = 25^\circ\text{C}$, 0dBm , $Z_0 = 75\Omega$, $P_{in} = 0\text{dBm}$

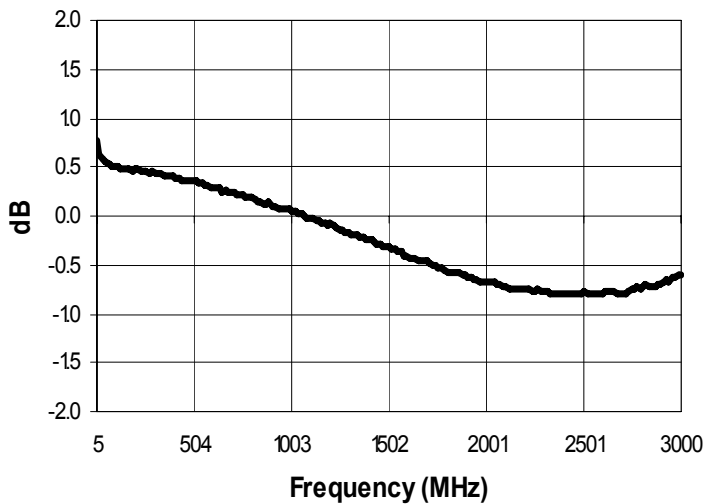
Insertion Loss



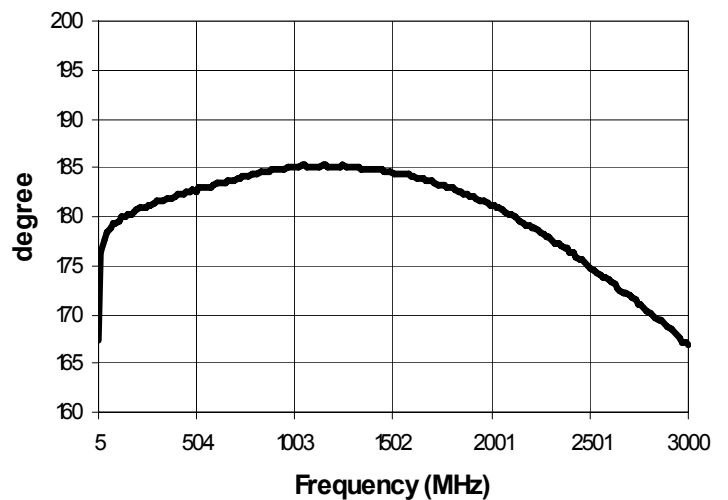
Return Loss: Input



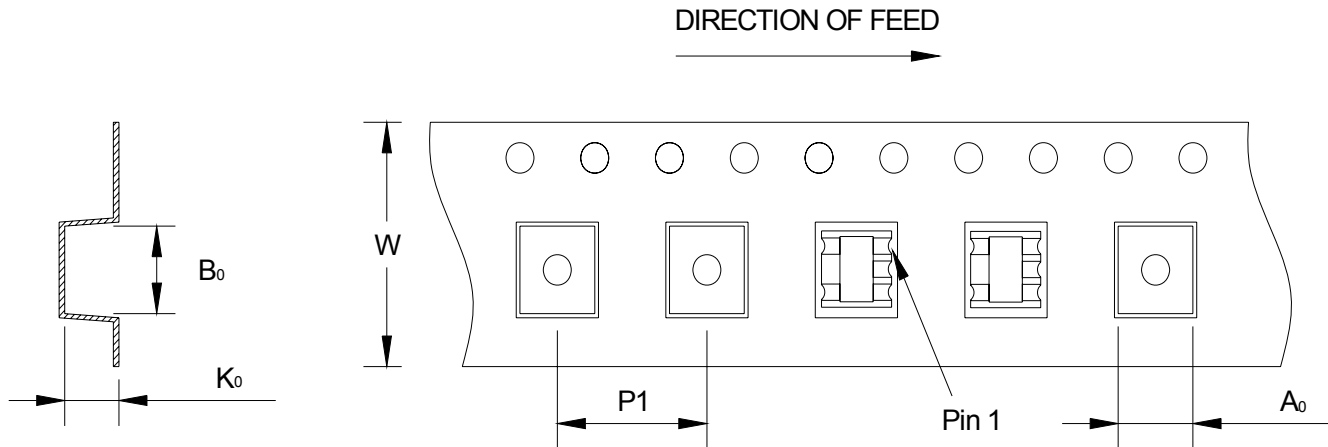
Amplitude Balance



Phase Balance



Tape & Reel Information



| Item | Dimension |
|------|------------------|
| Ao | 4.50mm +/- 0.1mm |
| Bo | 4.50mm +/- 0.1mm |
| Ko | 2.73mm +/- 0.1mm |
| W | 12.0mm +/- 0.3mm |
| P1 | 8.0mm +/- 0.1mm |

Ordering Information

| Part number | Description |
|-------------|-----------------|
| MABACT0034 | 2000 piece reel |
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