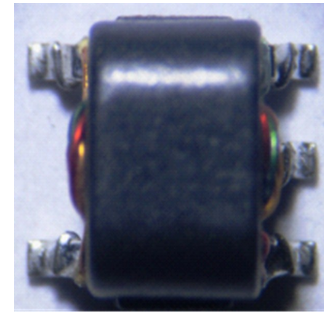


2:1 Step down Flux Coupled Balun Transformer 5 – 300 MHz

Rev. V2

Features

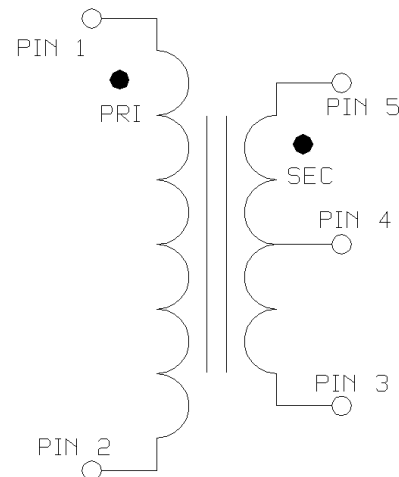
- 2:1 impedance
- Surface mount
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free
- Excellent temperature stability
- Suitable for all CATV, Broadband and FTTX applications



Description

MABA-011063 is a 2:1 flux coupled transformer. This transformer is ideally suited for DOCSIS 3.0x upstream applications due to its high power and temperature performance.

Functional Schematic



Ordering Information

| Part Number | Package |
|----------------|---------------------|
| MABA-011063 | Tape & Reel |
| MABA-011063-TB | Customer Test Board |

Pin Configuration

| Pin No. | Function |
|---------|-------------------------|
| 1 | Primary Dot (input) |
| 2 | Primary (ground) |
| 3 | Secondary (output2) |
| 4 | Center tap (ground) |
| 5 | Secondary Dot (output1) |

2:1 Step down Flux Coupled Balun Transformer 5 – 300 MHz

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

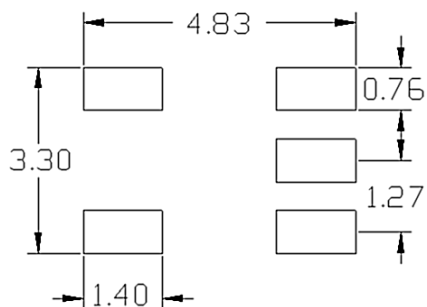
| Parameter | Test Conditions | Units | Min. | Typ. | Max. |
|---|-----------------|----------|------|------|-----------|
| Frequency Range | - | MHz | 5 | - | 300 |
| Impedance | - | Ω | - | 75 | - |
| Impedance Ratio | - | - | - | 2:1 | - |
| Insertion Loss 1 (Pin1 - Pin5) | 5 - 50 MHz | dB | - | 0.3 | 0.5 |
| | 50 - 150 MHz | dB | - | 0.5 | 1.0 |
| | 150 - 300 MHz | dB | - | 1.3 | 2.6 |
| Insertion Loss 2 (Pin1 - Pin3) | 5 - 50 MHz | dB | - | 0.2 | 0.5 |
| | 50 - 150 MHz | dB | - | 0.5 | 1.0 |
| | 150 - 300 MHz | dB | - | 1.1 | 2.3 |
| Amplitude Balance | 5 - 50 MHz | dB | - | 0.01 | ± 0.2 |
| | 50 - 150 MHz | dB | - | 0.01 | ± 0.4 |
| | 150 - 300 MHz | dB | - | 0.2 | ± 1.1 |
| Phase Balance (ref value 180°) | 5 - 50 MHz | $^\circ$ | - | 0.2 | ± 2.0 |
| | 50 - 150 MHz | $^\circ$ | - | 1.3 | ± 5.0 |
| | 150 - 300 MHz | $^\circ$ | - | 1.8 | ± 7.0 |
| Input Return Loss (Pin1) | 5 - 50 MHz | dB | 18 | 24 | - |
| | 50 - 150 MHz | dB | 10 | 15 | - |
| | 150 - 300 MHz | dB | 5 | 9 | - |

Recommended Maximum Ratings

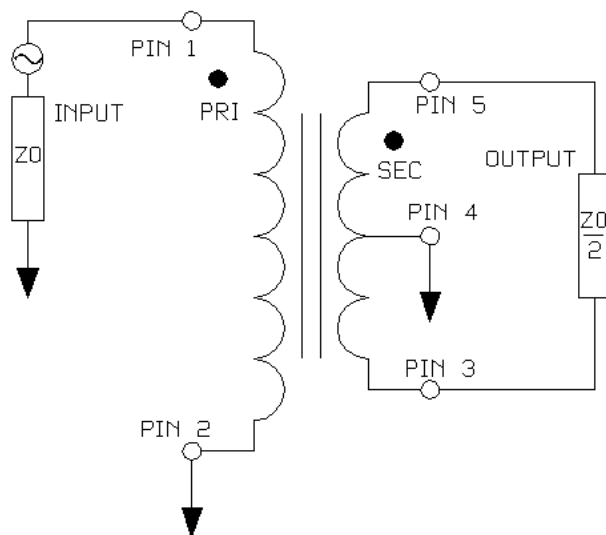
| Parameter | Units | Min | Max |
|-----------------------------|------------------|-----|------|
| Input Power | mW | - | 1000 |
| DC Current | mA | - | 1000 |
| Operating Temperature Range | $^\circ\text{C}$ | -40 | +125 |

Full temperature plots available on request

PCB Layout



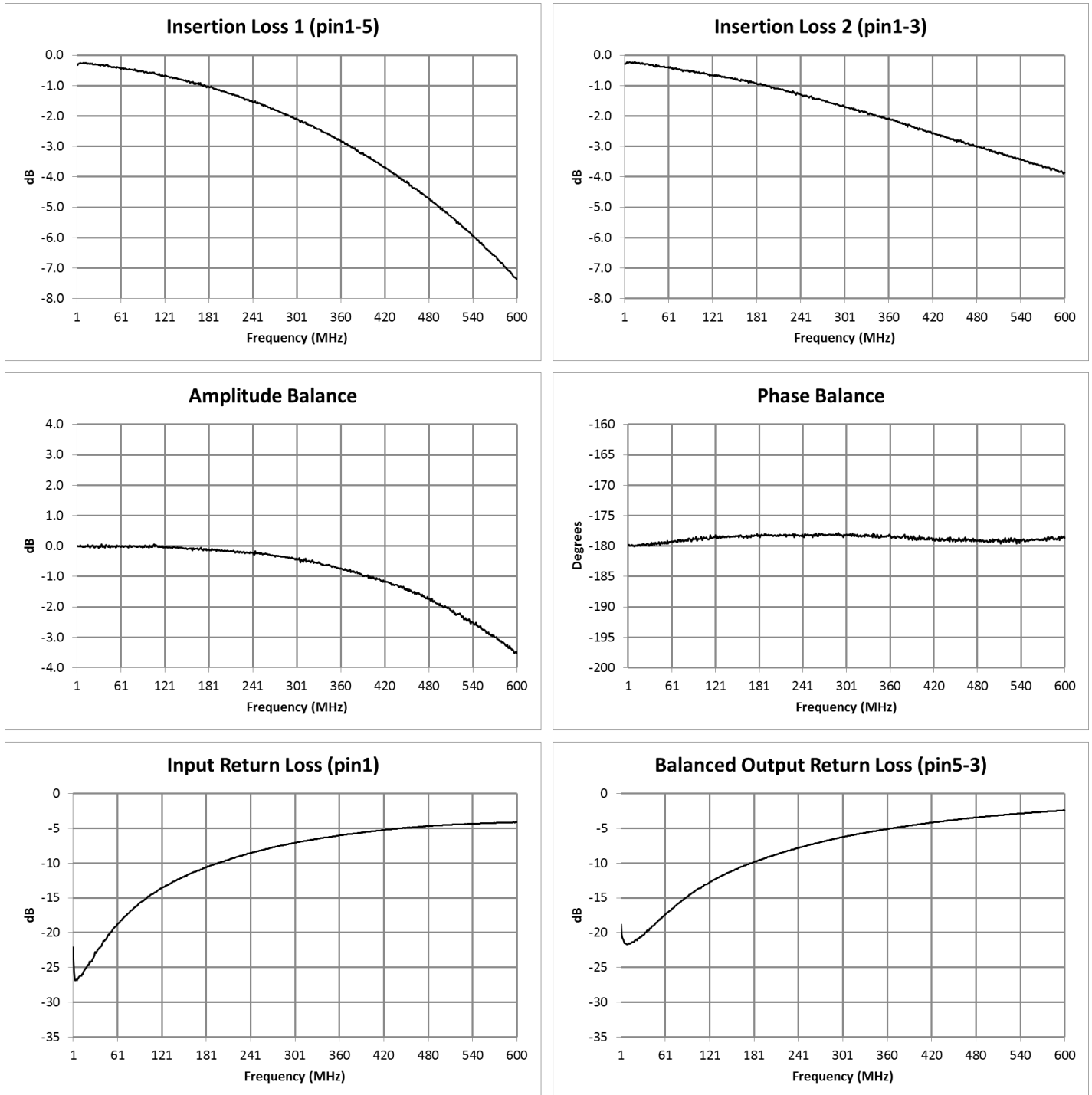
Application Schematic



2:1 Step down Flux Coupled Balun Transformer 5 – 300 MHz

Rev. V2

Typical Performance Curves

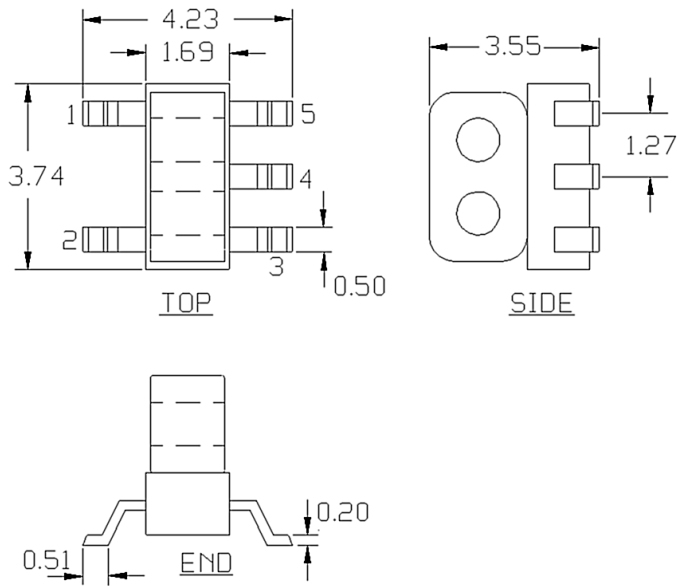


Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{in} = 0\text{dBm}$

2:1 Step down Flux Coupled Balun Transformer 5 – 300 MHz

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Outline drawing

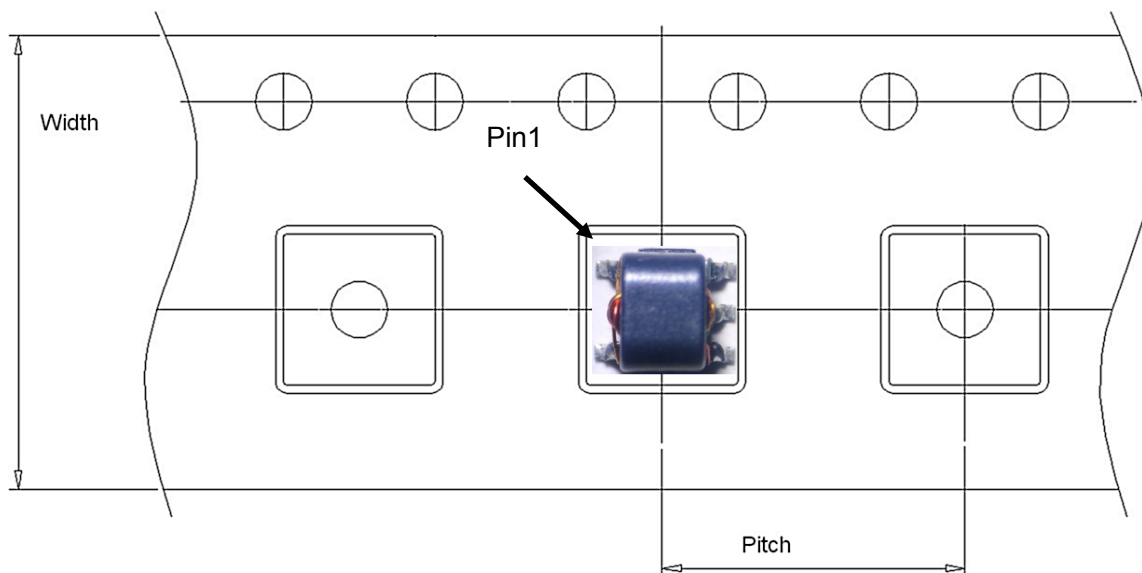


Tape & Reel Information

| Parameter | Units | Value |
|--|-------|-------|
| Qty per reel | - | 2000 |
| Reel Size | mm | 330 |
| Tape Width | mm | 12.00 |
| Pitch | mm | 8.00 |
| Ao | mm | 4.40 |
| Bo | mm | 4.00 |
| Ko | mm | 3.90 |
| Orientation | - | F26 |
| Reference Application Note ANI-019 for orientation | | |

1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating (CuSn6) Lead finish SAC-305.

Carrier Tape Orientation



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