

**E-Series RF 1:1 Flux Coupled Transformer**  
**0.3 – 200 MHz**

**MABAES0060**  
**V2**

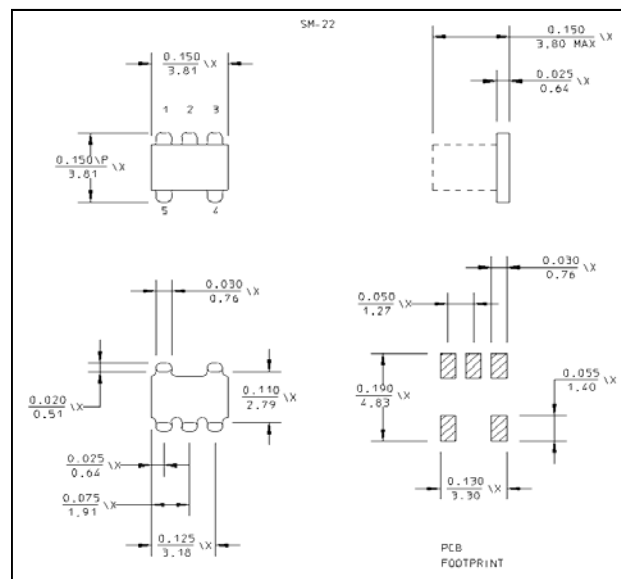
**Features**

- Surface Mount
- 1:1 Impedance Ratio
- CT on Secondary
- RoHS\* Compliant version of the ETC1-1T
- Tape and reel packaging available

**Description**

M/A-COM's MABAES0060 is a RoHS compliant device that is equivalent to the ETC1-1T transformer. This device is a 1:1 RF flux coupled transformer in a low cost, surface mount package. Ideally suited for high volume cellular and wireless applications. Typical applications include single to balanced mode conversion and impedance matching. The MABAES0060 transformer is offered in an SM-22 surface mount package and is designed to be utilized in both standard reflow and high temperature soldering reflow profiles.

**Outline Drawing — SM-22**



**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\Omega$ <sup>1</sup>**

| Parameter           | Test Conditions | Frequency             | Units              | Min    | Typ    | Max          |
|---------------------|-----------------|-----------------------|--------------------|--------|--------|--------------|
| RF Frequency        | —               | 0.3 - 200             | MHz                | —      | —      | —            |
| Insertion Loss      | —               | 0.3 - 200             | dB                 | —      | —      | 1.5          |
| Amplitude Imbalance | —               | 0.3 - 50<br>0.3 - 200 | dB<br>dB           | —<br>— | —<br>— | 0.1<br>0.5   |
| Phase Imbalance     | —               | 0.3 - 50<br>0.3 - 200 | Degrees<br>Degrees | —<br>— | —<br>— | 1.0<br>5.0   |
| Input Return Loss   | —               | 0.3 - 200<br>5 - 120  | dB<br>dB           | —<br>— | —<br>— | 10.0<br>15.0 |

**Ordering Information**

| Part Number | Package                          |
|-------------|----------------------------------|
| MABAES0060  | Tape and Reel (2000 piece reels) |

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

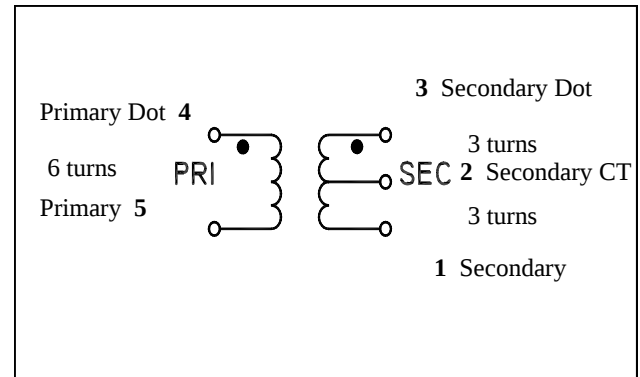
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**Pin Configuration**

| Pin No. | Function      |
|---------|---------------|
| 1       | Secondary     |
| 2       | Secondary CT  |
| 3       | Secondary Dot |
| 4       | Primary Dot   |
| 5       | Primary       |

**Schematic**



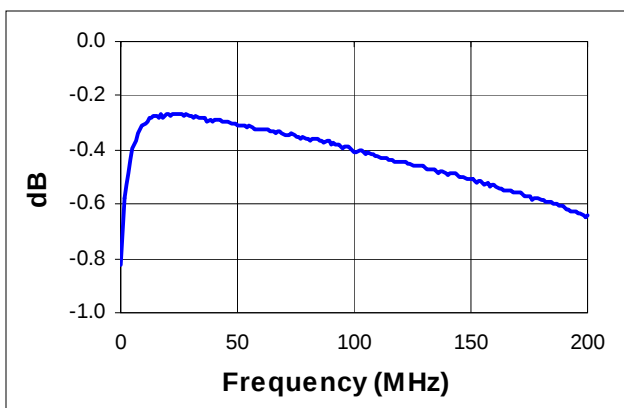
**Absolute Maximum Ratings <sup>1</sup>**

| Parameter             | Absolute Maximum    |
|-----------------------|---------------------|
| RF Power              | 250 mW              |
| DC Current            | 240 mA <sup>2</sup> |
| Operating Temperature | -40°C to +85°C      |
| Storage Temperature   | -55°C to +125°C     |

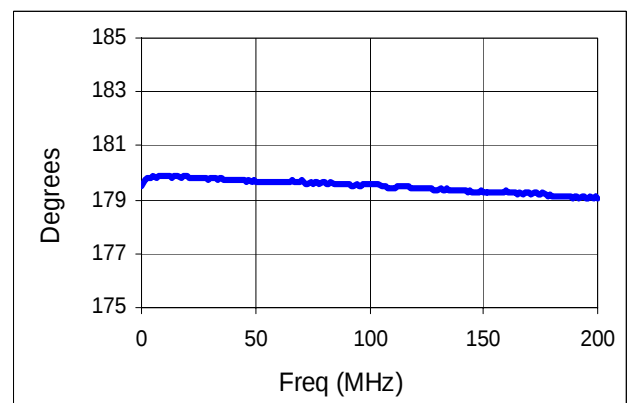
1. Operation of this device above any one of these parameters may cause permanent damage.
2. The maximum DC current applies to the secondary center tap in applications where the secondary is balanced.

**Typical Performance Curves Over Extended Bandwidth (30kHz - 1.0GHz)**

**Insertion Loss**



**Phase Unbalance**

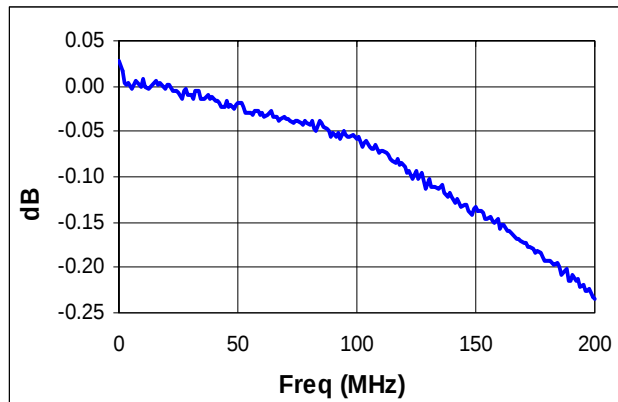


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**Typical Performance Curves Over Extended Bandwidth (30kHz - 1.0GHz)**

**Amplitude Unbalance**



**Input Return Loss**

