

#### Features

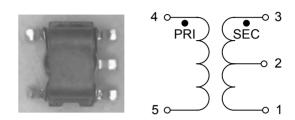
- Surface Mount
- 1:4 Impedance Ratio
- CT on Secondary
- Available on Tape & Reel

#### Description

The MABAES0031 is a 1:4 RF flux coupled step-up transformer. This transformer is offered in a SM-138 surface mount package.

Ideally suited for high volume cellular and wireless applications. Typical applications include single to balanced mode conversion and impedance matching.

### **Functional Schematic**



#### **Pin Configuration**

Pin #	Function	
1	Secondary	
2	Secondary CT	
3	Secondary Dot	
4	Primary Dot	
5	Primary	

### Electrical Specifications: Freq. = 1 - 650 MHz, $T_A = 25^{\circ}C$ , $Z_0 = 50 \Omega$ , $P_{in} = 0 \text{ dBm}$

Parameter	Conditions	Units	Min.	Тур.	Max.
Impedance Ratio	—	ratio	_	1:4	_
Insertion Loss (fL - f <sub>U</sub> )	10 - 200 MHz 1 - 450 MHz	dB		0.7 1.5	1.0 2.0
Amplitude Unbalance	10 - 200 MHz	dB		0.12	0.25
Phase Unbalance	10 - 200 MHz 1 - 500 MHz 500 - 650 MHz	o	_	1 3 7	2.0 5.0 10.0

### **Ordering Information**

Part Number	Description
MABAES0031	2000 piece reel

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

Parameter	Absolute Maximum	
RF Input Power	250 mW	
DC Current	200 mA	
Operating & Storage Temperature	-40°C to +85°C	

1. Operation of this device above any one of these parameters may cause permanent damage.

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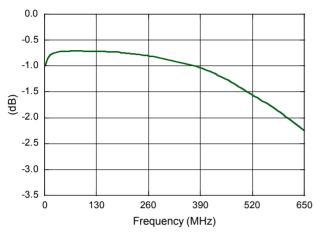


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### 1:4 E-Series, RF Flux Coupled Transformer 1 - 650 MHz

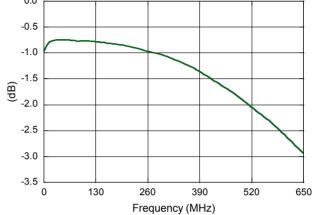
### Typical Performance Curves @ +25°C

#### Insertion Loss (Primary to Secondary Dot)



Frequency (MHz)

# Insertion Loss (Primary to Secondary)



Frequency (MHz)

#### Amplitude Unbalance

0.0

-0.2

-0.6

-0.8

2

0

କ୍ଟି -0.4

#### 200 190 (degree) 180 170 160 130 260 390 520 650 0 130 260 390 520

Phase Unbalance

All measurements performed on Hewlett Packard 8753D Network Analyzer (201 sample points, linear scale) in a 50  $\Omega$  coplanar waveguide environment.

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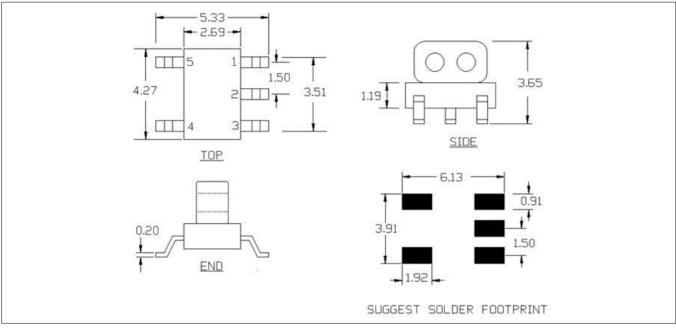
## 1:4 E-Series, RF Flux Coupled Transformer

1 - 650 MHz

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### Lead-Free Outline Drawing (SM-138)



Dimensions in mm.

Tolerance: ±0.2 mm unless otherwise noted.

Model number and lot code are printed on the reel.

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1:4 E-Series, RF Flux Coupled Transformer 1 - 650 MHz



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