

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

Rev. V1

Features

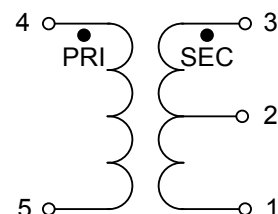
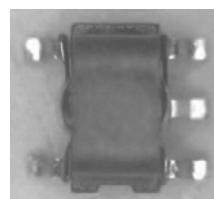
- Surface Mount
- 1:4 Impedance Ratio
- CT on Secondary
- Available on Tape & Reel

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, $T_A = 25^\circ\text{C}$, $Z_0 = 50\ \Omega$, $P_{in} = 0\ \text{dBm}$

Parameter	Conditions	Units	Min.	Typ.	Max.
Impedance Ratio	—	ratio	—	1:4	—
Insertion Loss ($f_L - f_U$)	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	°	—	1 3 7	2.0 5.0 10.0

Ordering Information

Part Number	Description
MABAES0031	2000 piece reel

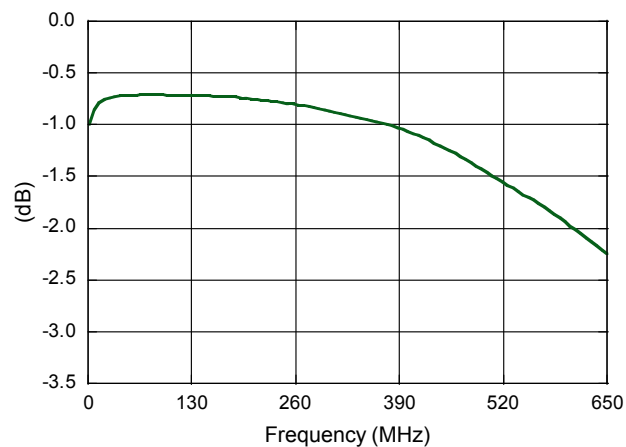
Absolute Maximum Ratings¹

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

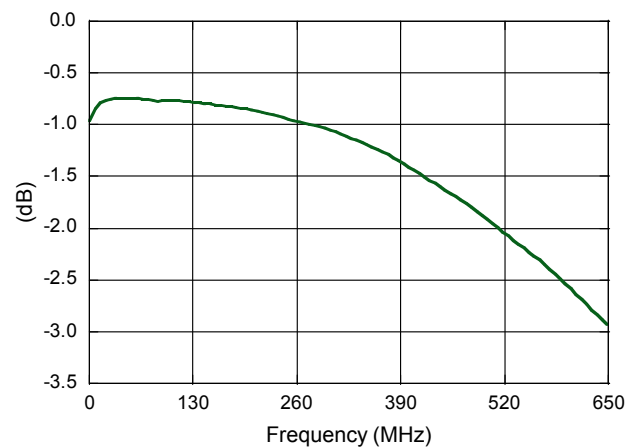
1. Operation of this device above any one of these parameters may cause permanent damage.

Typical Performance Curves @ +25°C

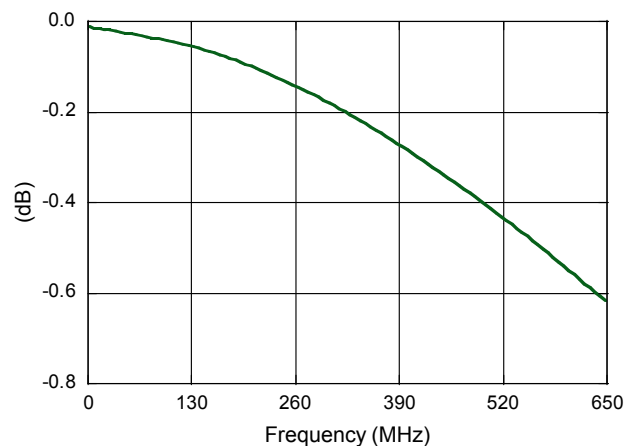
Insertion Loss (Primary to Secondary Dot)



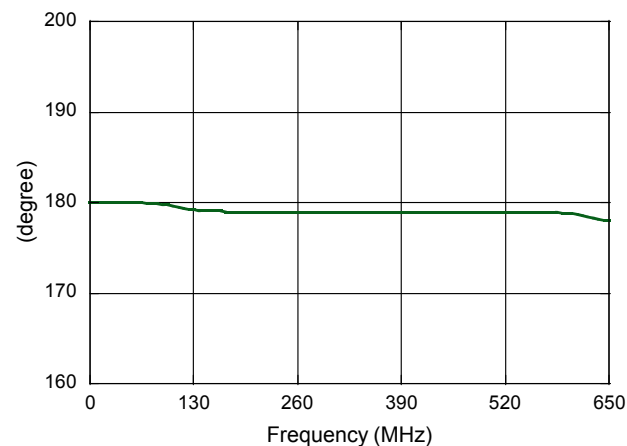
Insertion Loss (Primary to Secondary)



Amplitude Unbalance

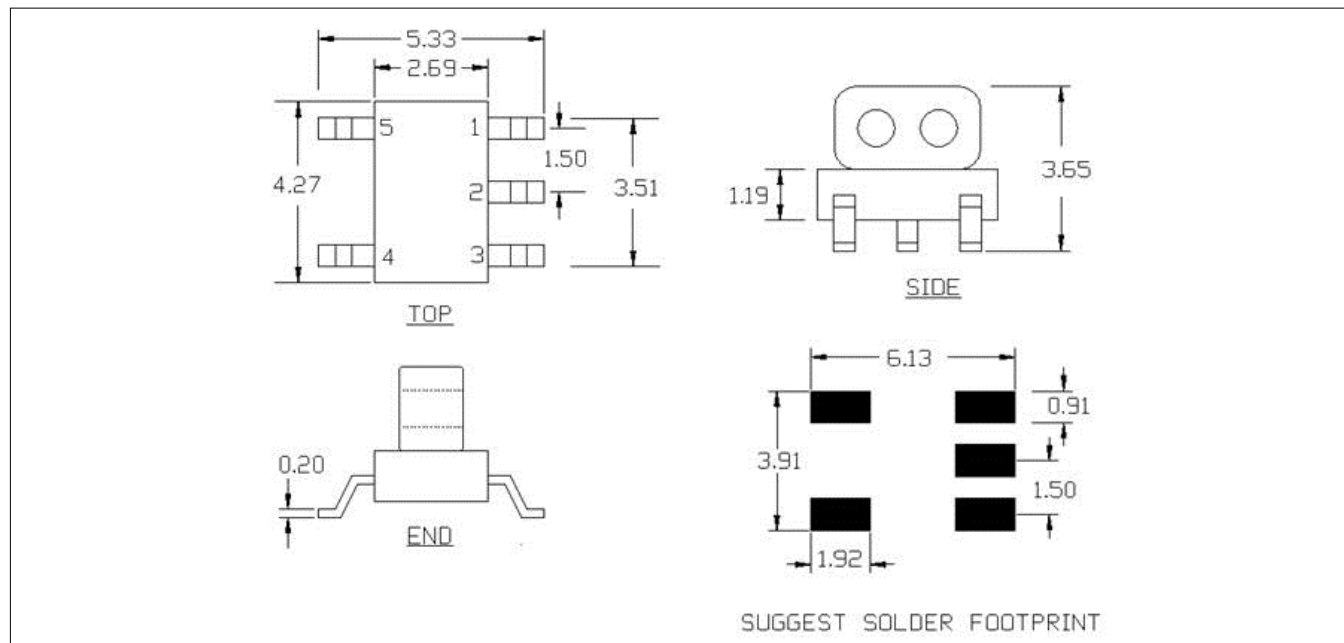


Phase Unbalance



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

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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