

Features

- Surface Mount
- 1:1 impedance
- Available on Tape and Reel
- RoHS Compliant and Lead free
- 260°C Reflow Compatible

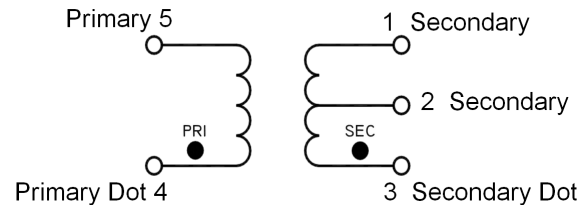
Description

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, SM-22 surface mount package and is designed to be utilized in both standard reflow and high temperature soldering

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



Functional Schematic



Ordering Information

Part Number	Package
MABAES0060	Tape & Reel

Pin Configuration

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

RF 1:1 Flux Coupled Transformer 0.3 - 200 MHz

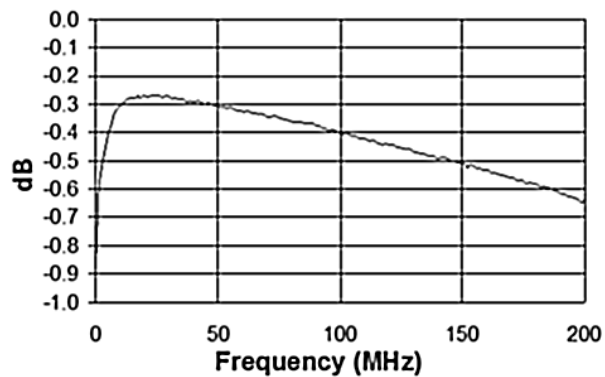
Rev. V8

Electrical Specifications: Freq. = 0.3 - 200 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 50 \Omega$, $P_{in} = 0 \text{ dBm}$

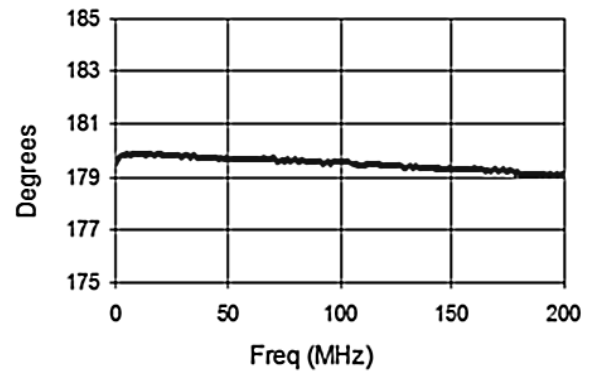
Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss	0.3 - 200 MHz	dB	—	—	1.5
Amplitude Balance	0.3 - 50 MHz	dB	—	—	0.1
	0.3 - 200 MHz				0.5
Phase Balance	0.3 - 50 MHz	Degrees	—	—	1.0
	0.3 - 200 MHz				5.0
Input Return Loss	0.3 - 200 MHz	dB	—	—	10.0
	5 - 120 MHz				15.0

Typical Performance Curves

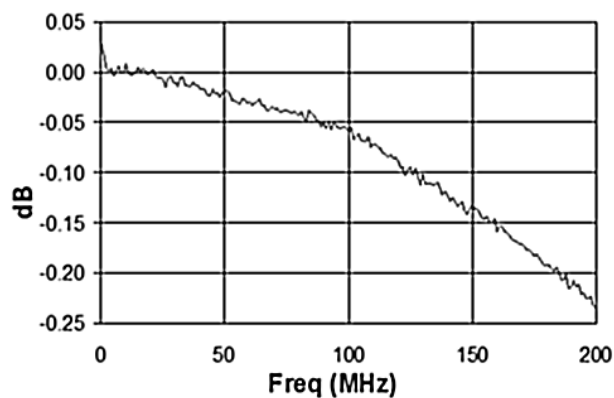
Insertion Loss



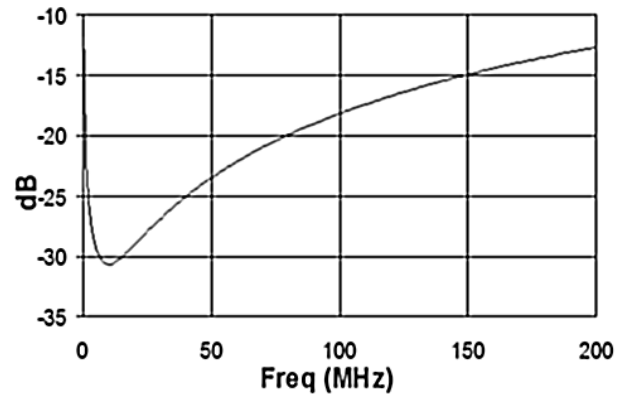
Phase Unbalance



Amplitude Unbalance



Input Return Loss



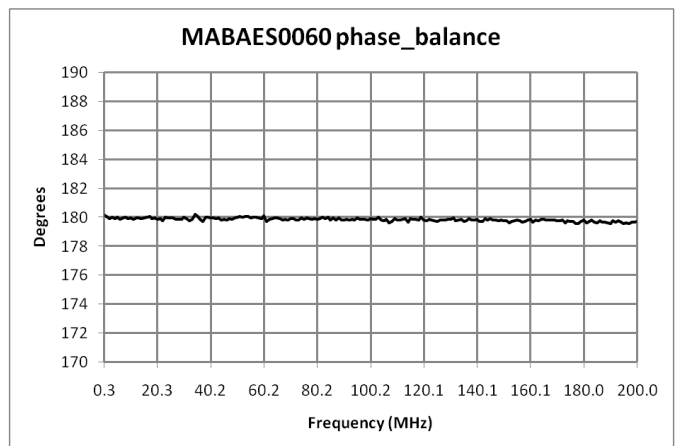
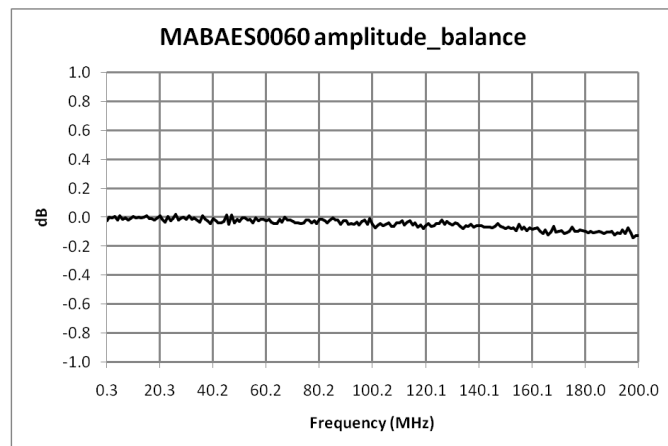
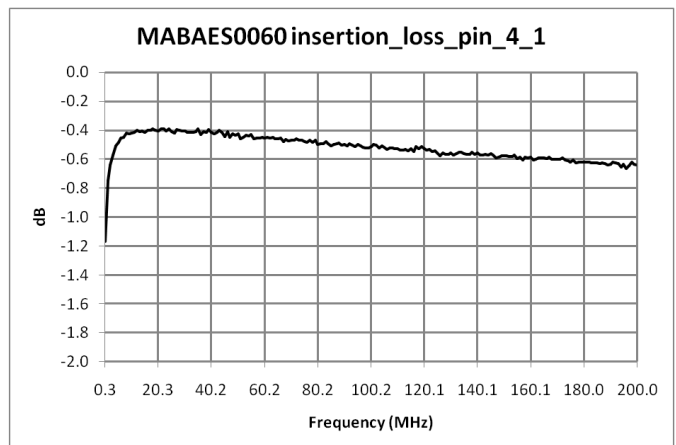
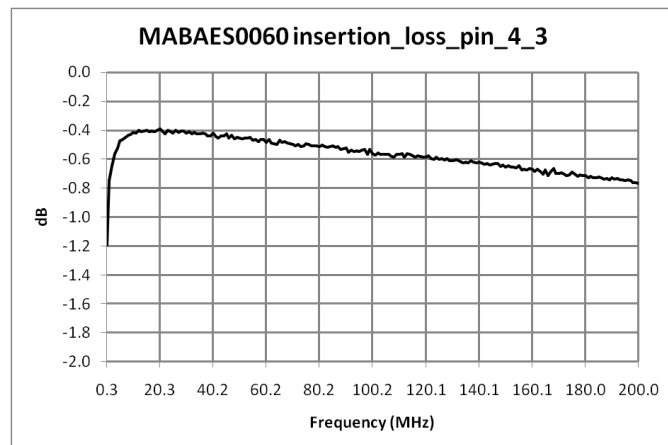
RF 1:1 Flux Coupled Transformer 0.3 - 200 MHz

Rev. V8

Electrical Specifications: Freq. = 0.3 - 200 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{in} = 0 \text{ dBm}$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss	0.3 - 5 MHz	dB	—	—	1.7
	5 - 200 MHz				0.9
Amplitude Balance	0.3 - 50 MHz	dB	—	—	0.1
	0.3 - 200 MHz				0.5
Phase Balance	0.3 - 50 MHz	Degrees	—	—	2.0
	0.3 - 200 MHz				5.0
Input Return Loss	0.3 - 5 MHz	dB	7	—	—
	5 - 120 MHz		19		
	120 - 200 MHz		15		

Typical Performance Curves

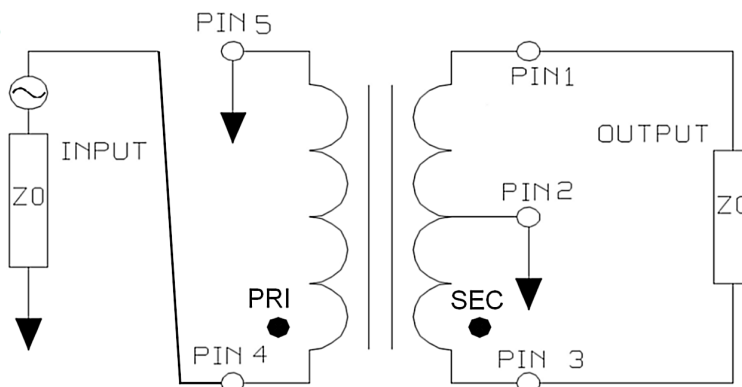


Absolute Maximum Ratings^{1,2}

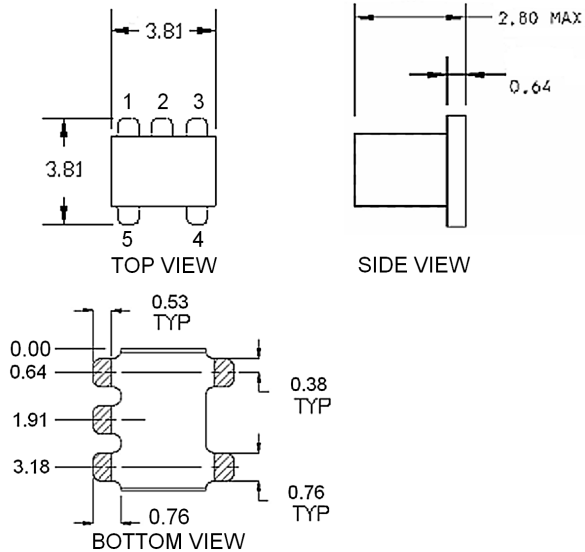
Parameter	Units
Input RF Power	500 mW
DC Current	500 mA
Operating Temperature	-40°C to +85°C

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

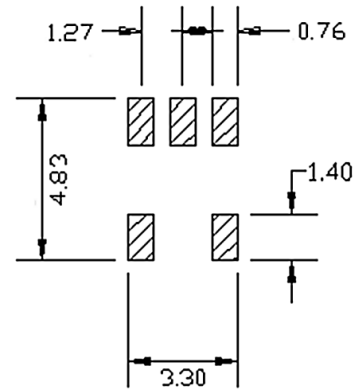
Application Schematic



Outline Drawing

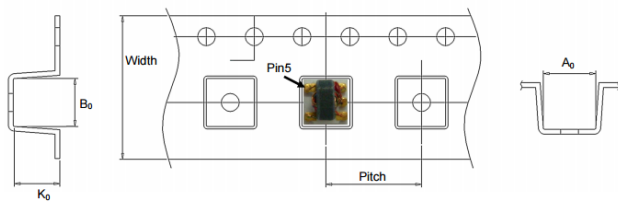


PCB Layout



Dimensions in mm.
 Tolerance: ± 0.38 mm unless otherwise noted.
 Model number and lot code are printed on the reel.
 Lead plating: ENIG on both sides, 0.05 to 0.1 μm gold over 3 to 6 μm nickel.

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12
Pitch	mm	8
Orientation	-	F5
Reference Application Note ANI-019 for orientation		

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