

## Features

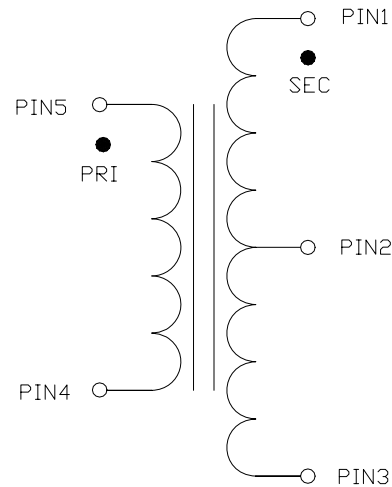
- Surface mount
- 1:3 Impedance ratio
- Centre tap on Secondary
- 260°C reflow compatible
- RoHS\* compliant and lead free
- Available on tape and reel

## Description

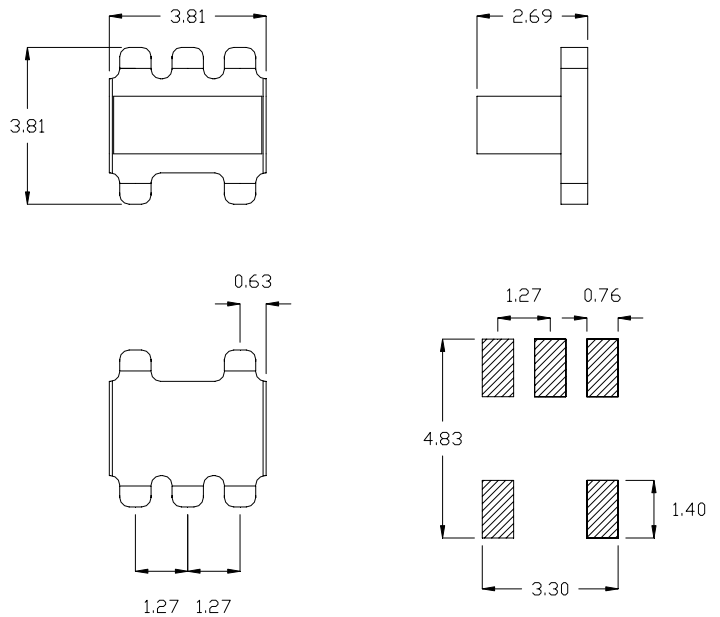
M/A-COM Technology Solutions MABA-009947-CF3160 is a 1:3 RF Flux coupled transformer in a low cost, surface mount package. Ideally suited for broadband CATV applications.



## Schematic



## Component Dimensions



## Pin Configuration

Pin no.	Function
1	Secondary dot
2	Secondary Centre Tap
3	Secondary
4	Primary
5	Primary Dot

All Dimensions in mm.  
Tolerance  $\pm 0.20\text{mm}$   
Drawing not to scale

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

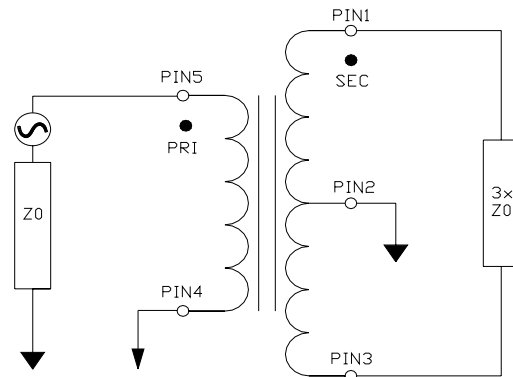
Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss	0.3 - 5 MHz	dB	-	1.2	2.5
	5 - 250 MHz	dB	-	0.7	0.9
	250 - 500 MHz	dB	-	1.3	1.9
Amplitude Unbalance (Nominal 0dB)	0.3 - 100 MHz	dB	-	0.0	$\pm 0.2$
	100 - 250 MHz	dB	-	0.2	$\pm 0.4$
	250 - 500 MHz	dB	-	0.6	$\pm 1.5$
Phase Unbalance (Nominal 180°)	0.3 - 100 MHz	°	-	0.0	$\pm 3$
	100 - 250 MHz	°	-	0.8	$\pm 6$
	250 - 500 MHz	°	-	3.5	$\pm 20$
Input Return Loss	0.3 - 5 MHz	dB	7	11	-
	5 - 250 MHz	dB	18	22	-
	250 - 500 MHz	dB	10	15	-

## Recommended Maximum Ratings<sup>1,2</sup>

Parameter	Value
Input power	At least 250mW
DC current	At least 30mA
Operating Temperature	-20°C to +85°C
Storage Temperature	-55°C to +100°C

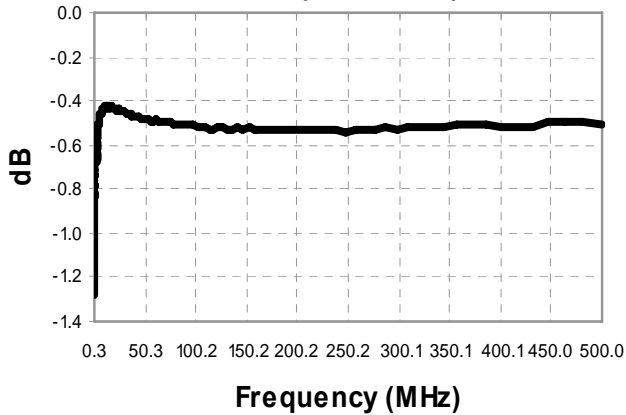
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM Technology Solutions does not recommend sustained operation near these survivability limits.

## Application Circuit

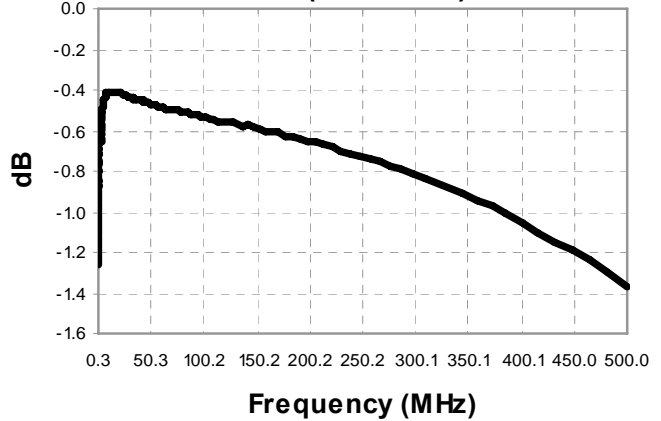


Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\Omega$ ,  $P_{in} = 0\text{dBm}$

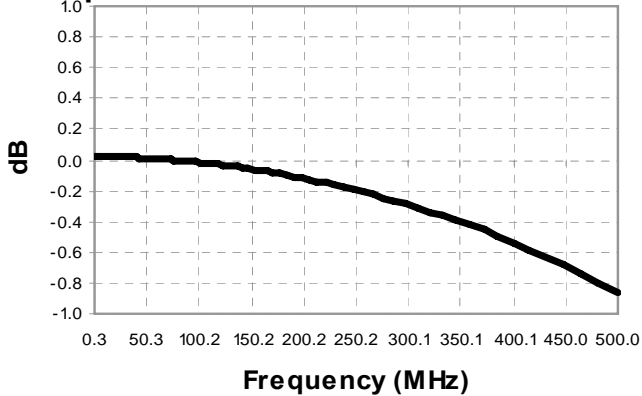
Insertion Loss 1: (Pin 4 to 1)



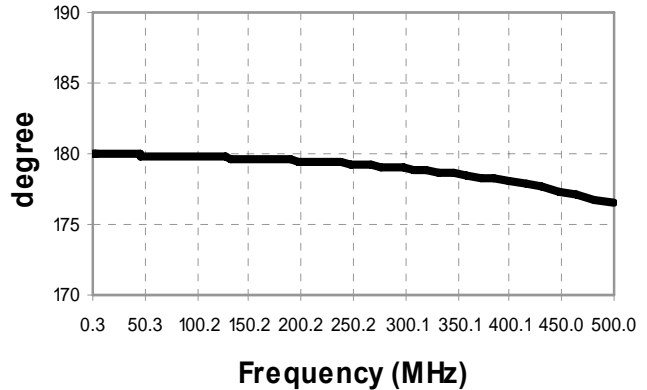
Insertion Loss 2: (Pin 4 to 3)



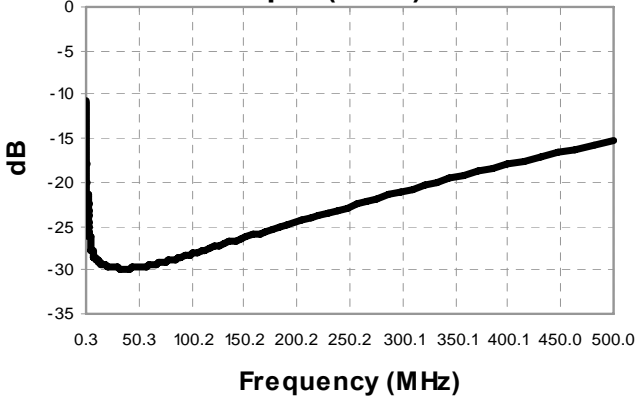
Amplitude Unbalance



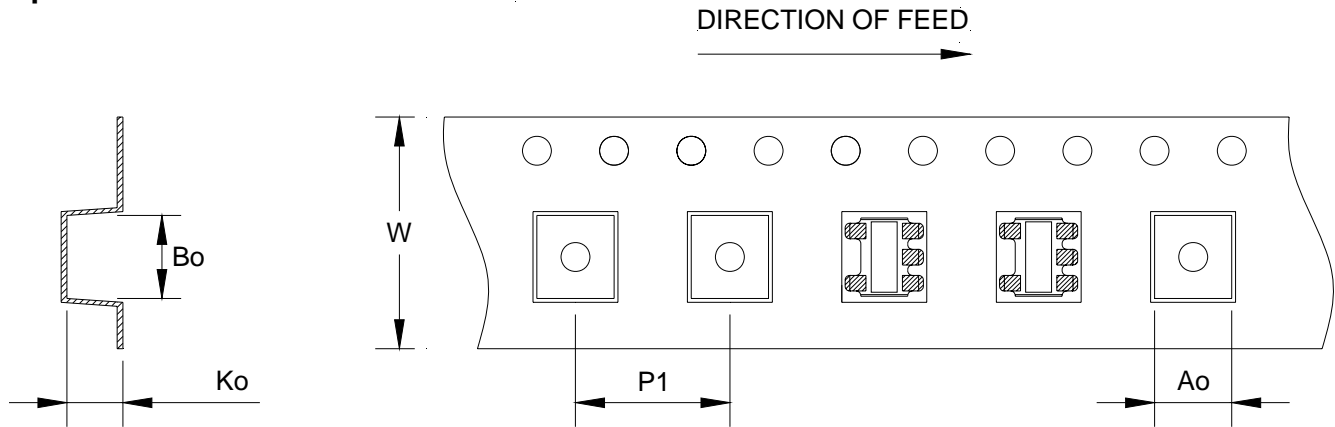
Phase Unbalance



Return Loss: Input (Pin 4)



## Tape & Reel Information



Item	Dimension
Ao	4.00mm +/- 0.1mm
Bo	4.00mm +/- 0.1mm
Ko	2.90mm +/- 0.1mm
W	12.00mm +/- 0.3mm
P1	8.00mm +/- 0.1mm

## Ordering Information

Part number	Description
MABA-009947-CF3160	2000 piece reel
MABA-009947-CF31TB	Customer Test Board