

1:1 Transmission Line Transformer
4.5 to 3000 MHz

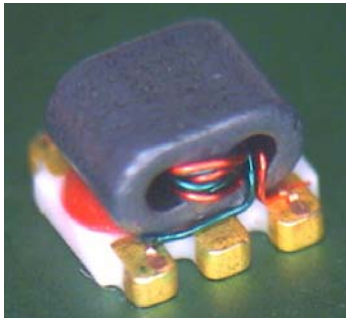
M/A-COM Products
RoHS Compliant

Features

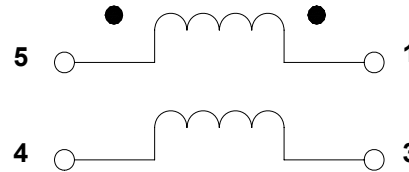
- Surface mount
- Wide frequency range
- 1:1 Impedance
- Lead free
- RoHS Compliant and is 260°C reflow compatible
- Available on tape and reel, reel quantity 2000

Description

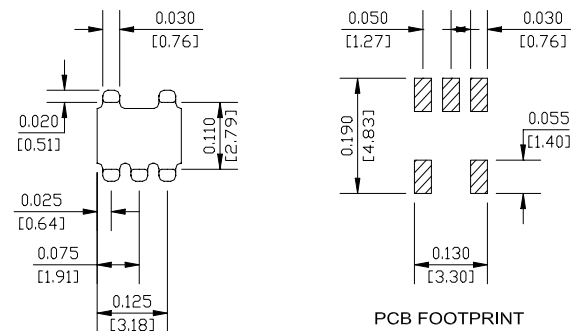
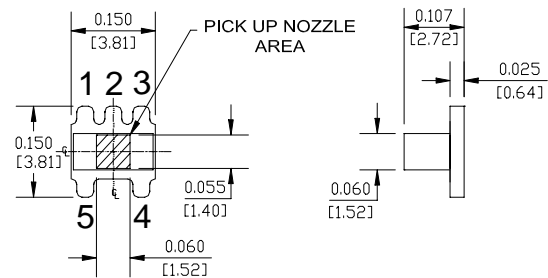
The MABACT0059 is a 1:1 Transmission Line Transformer. The windings of the MABACT0059 are welded to the package substrate for improved reliability and to eliminate lead content. This Transformer is ideally suited for CATV and Satellite STB/Subscriber applications.



Schematic



Case Style SM-22B



Pin Configuration

Function	Pin Number
Secondary Dot	1
Not Connected	2
Secondary	3
Primary	4
Primary Dot	5

Ordering Information

Part Number	Package
MABACT0059	2000 piece reel

* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

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- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

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RELEASED: In full production, samples readily available, standard lead times apply.

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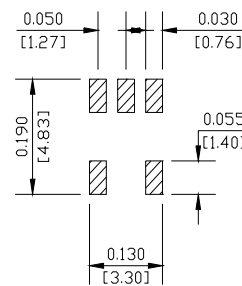
Electrical Specifications: : $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range	4.5 – 3000 MHz				
Insertion Loss 1 (Pin 4 to Pin 3)	4.5 – 1000 MHz	dB	–	0.07	1.0
	1000 – 2000 MHz	dB		0.63	2.0
	2000 – 2500 MHz	dB		1.93	5.0
	2500 – 3000 MHz	dB		4.20	6.5
Insertion Loss 2 (Pin 4 to Pin 1)	4.5 – 1000 MHz	dB	–	0.29	1.0
	1000 – 2000 MHz	dB		0.08	2.0
	2000 – 2500 MHz	dB		2.00	6.0
	2500 – 3000 MHz	dB		5.30	8.4
Amp Unbalance (Nominal 0dB)	4.5 – 20 MHz	dB	–	± 1.0	± 1.2
	20 – 1000 MHz	dB		± 0.3	± 1.0
Phase Unbalance (Nominal 180°)	4.5 – 1000 MHz	$^\circ$	–	± 0.03	± 20
Input Return Loss (Pin 4)	4.5 – 1000 MHz	dB	15	26.30	–

Absolute Maximum Ratings ^{1,2}

Parameter	Absolute Maximum
RF Power	250 mW
DC Current	30 mA
Operating Temperature	-40° C to +85° C
Storage Temperature	-40° C to +85° C

Suggested Footprint



PCB FOOTPRINT

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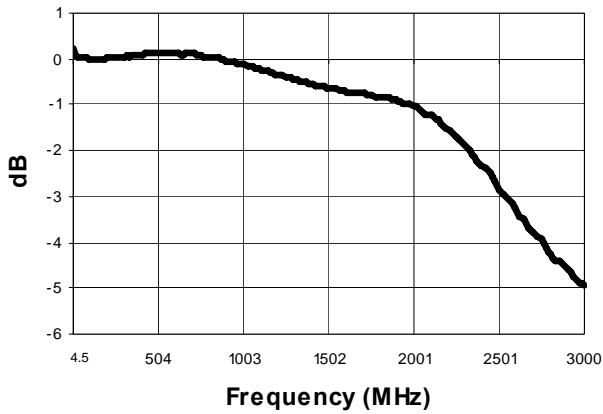
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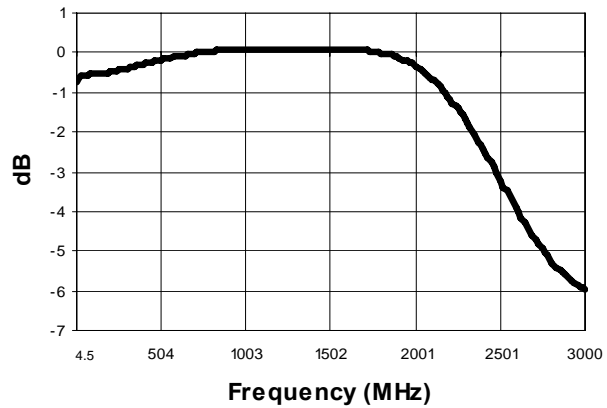
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Typical Performance Curves @ $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

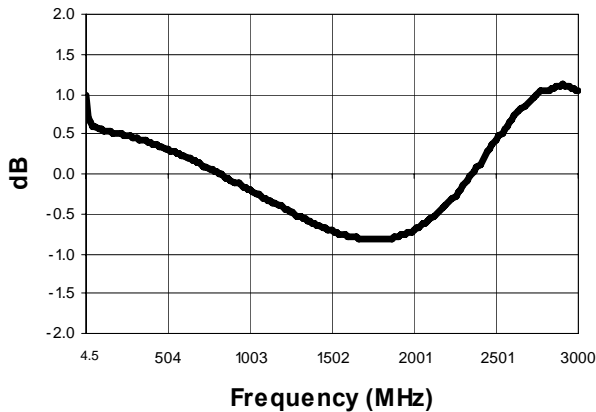
Insertion Loss 1 (Pin4 - Pin3)



Insertion Loss 2 (Pin4 - Pin1)



Amplitude Balance



Phase Balance

