



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Features

- Surface Mount
- Wide Frequency Range
- 1:1 Impedance
- Excellent Temperature Stability
- RoHS Compliant and Pb Free
- 260°C Reflow Compatible

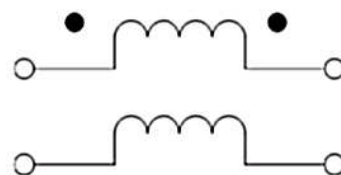
Description

The MABACT0059 1:1 transmission line transformer. The windings 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.

Ordering Information

Part Number	Package
MABACT0059	2000 piece reel
MABACT0059TB	Sample Board

Functional Schematic



Pin Configuration

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

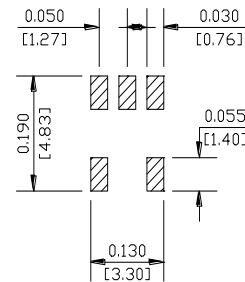
Electrical Specifications: Freq. = 4.5 - 3000 MHz, T_A = +25°C, Z₀ = 75 Ω

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

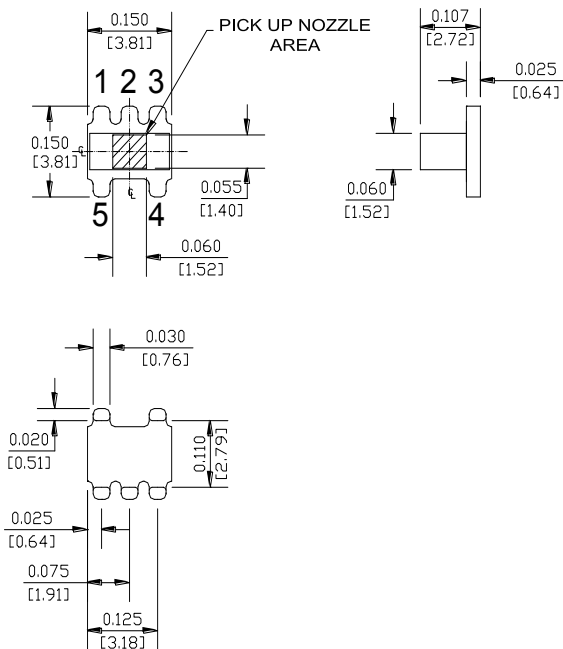
Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Power	500 mW
DC Current	500 mA
Operating/Storage Temperature	-40°C to +85°C

Recommended Footprint



Outline Drawing



Tape & Reel Information

Parameter	Units	Value
Qty per reel	—	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	—	F5
Reference Application Note ANI-019 for orientation		

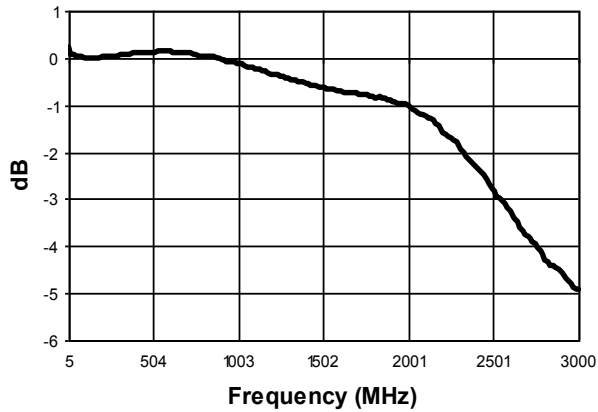
1. Dimensions in inches [mm].
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Plating finish: Au finish, 0.1 - 0.5 μm

1:1 Transmission Line Balun 4.5 - 3000 MHz

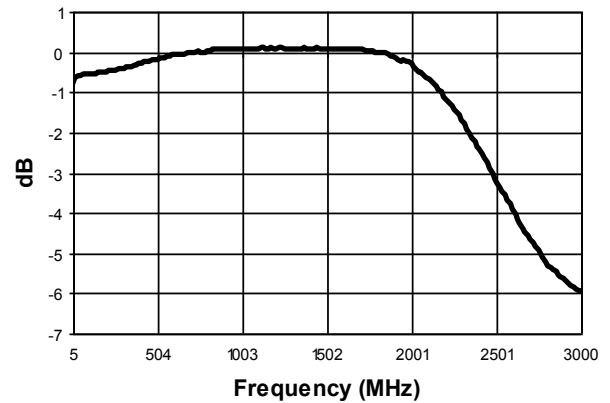
Rev. V8

Typical Performance Curves: Electrical Specifications: $Z_0 = 75 \Omega$, $T_A = 25^\circ\text{C}$, $P_{in} = 0 \text{ dBm}$

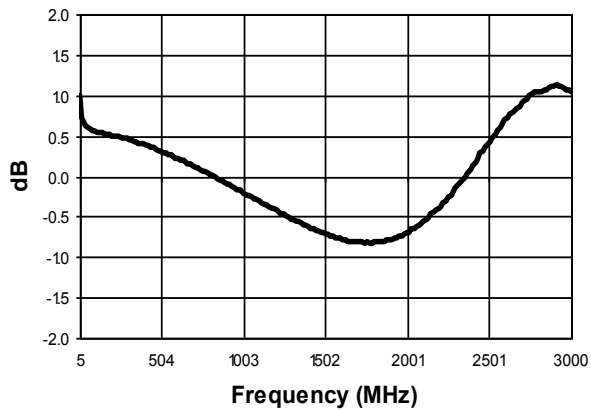
Insertion Loss 1 (Pin4 - Pin3)



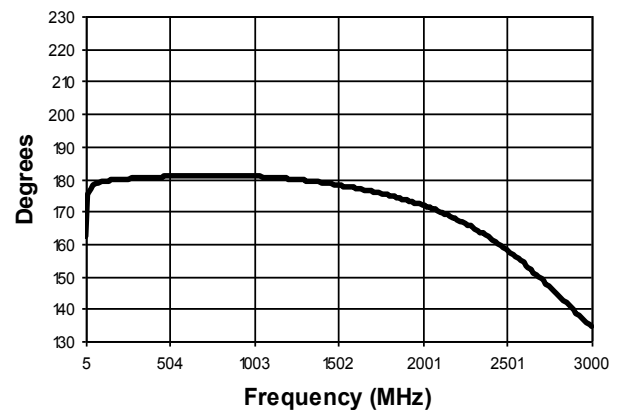
Insertion Loss 2 (Pin4 - Pin1)



Amplitude Balance



Phase Balance



Full temperature plots available on request

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