

Features

- 100 Ω bal-bal, 1:1 Impedance Ratio
- Product suited for both RX and TX channel
- Surface Mount Technology
- RoHS* Compliant

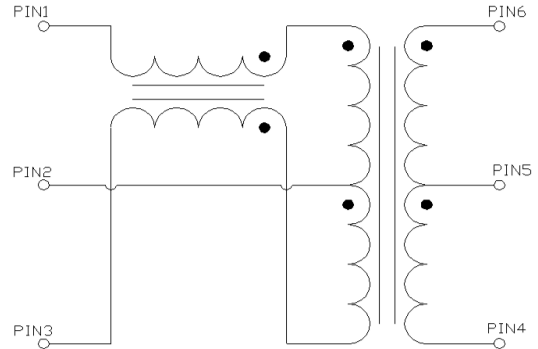
Applications

- ETHERNET

Description

The MABA-011111 is a 10/100/1000 BASE-T Ethernet Transformer in a surface mount package.

Functional Schematic



Ordering Information^{1,2}

Part Number	Package
MABA-011111	900 piece reel

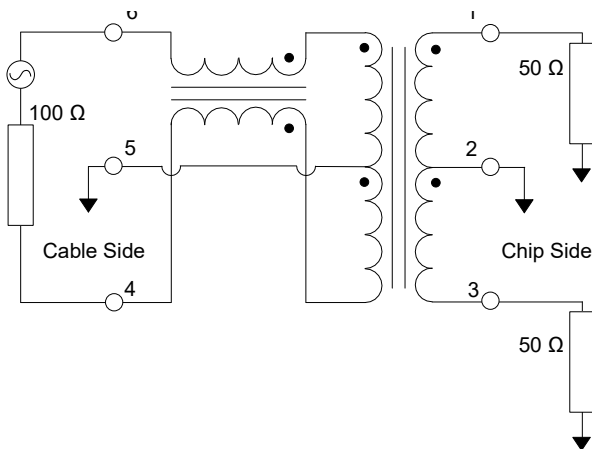
1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

Pin Configuration³

Pin #	Function	Pin #	Function
1	Primary Dot	4	Secondary
2, 5	Ground	6	Secondary Dot
3	Primary		

3. MACOM recommends connecting unused package pins to ground.

Application Schematic



* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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

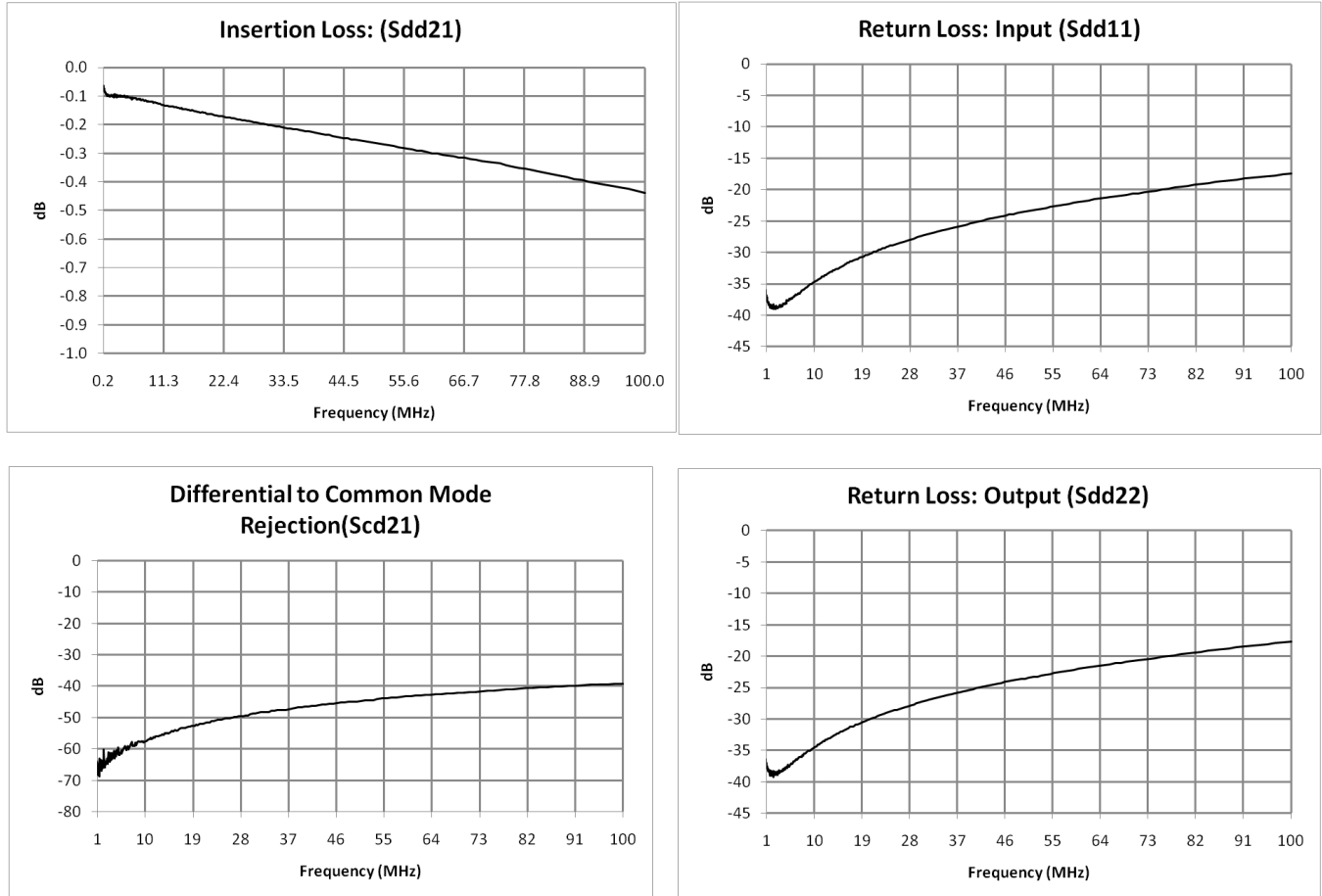
Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss (Sdd21)	0.2 - 1 MHz	dB	-0.25	-0.10	—
	1 - 3 MHz		-0.25	-0.20	
	3 - 10 MHz		-0.5	-0.20	
	10 - 65 MHz		-0.5	-0.30	
	65 - 100 MHz		-0.6	-0.43	
Return Loss (Sdd11 and Sdd22)	1 - 100 MHz	dB	—	-15	-12
Differential to Common Mode Rejection (Scd21)	1 - 100 MHz	dB	—	-32	-29
DC Resistance Balance	N/A	%	—	1.5	—

Absolute Maximum Ratings^{4,5,6}

Parameter	Value
Input power	250 mW
DC current	600 mA
Hi Pot	1500 Vrms
Operating Temperature	-40°C to +110°C
Storage Temperature	-55°C to +100°C

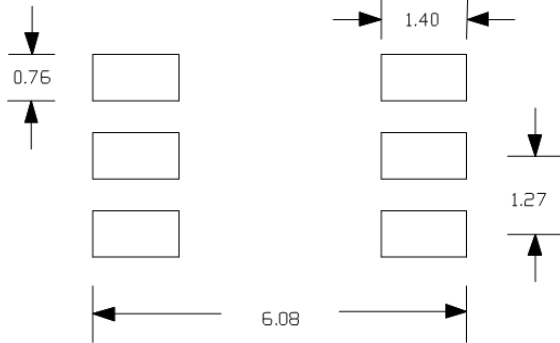
4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.
6. Specified at 25°C only and measured at 900 MHz & 1800 MHz.

Typical Performance Curves⁶



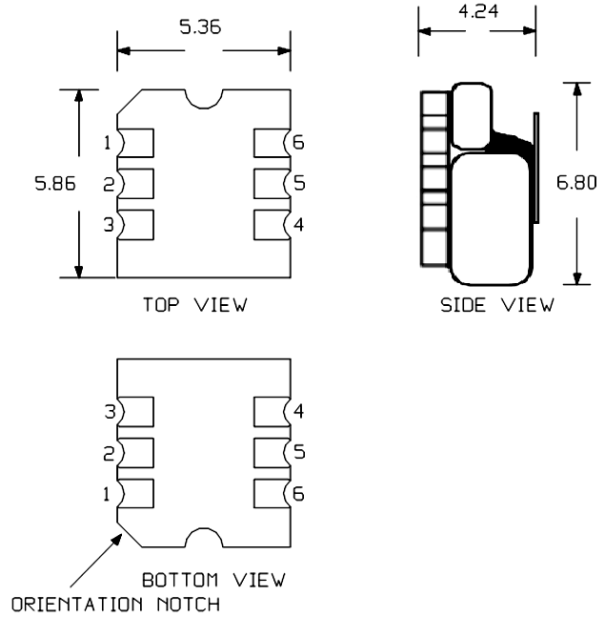
6. Full temperature plots available on request.

Recommended Board Layout⁷



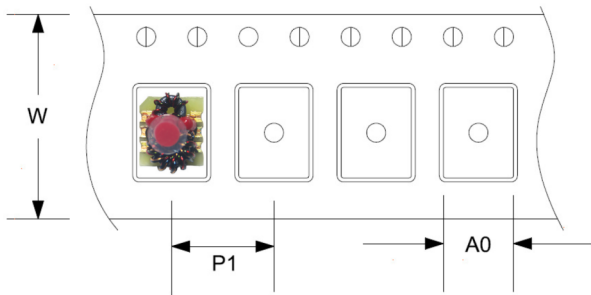
7. Recommended PCB layout shown above uses 1.6 mm FR4, Grounded coplanar wave guide, transmission line width 0.70 mm and gap 0.57 mm.

Outline Drawing^{8,9,10,11}



8. Dimensions in mm.
9. Tolerance: ± 0.2 mm unless otherwise noted.
10. Model number and lot code are printed on the reel.
11. Plating finish: ENIG.

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	8.00
Orientation	-	F46
Reference Application Note ANI-019 for orientation		

MACOM Technology Solutions Inc. ("MACOM"). All rights reserved.

These materials are provided in connection with MACOM's products as a service to its customers and may be used for informational purposes only. Except as provided in its Terms and Conditions of Sale or any separate agreement, MACOM assumes no liability or responsibility whatsoever, including for (i) errors or omissions in these materials; (ii) failure to update these materials; or (iii) conflicts or incompatibilities arising from future changes to specifications and product descriptions, which MACOM may make at any time, without notice. These materials grant no license, express or implied, to any intellectual property rights.

THESE MATERIALS ARE PROVIDED "AS IS" WITH NO WARRANTY OR LIABILITY, EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHT, ACCURACY OR COMPLETENESS, OR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.