

Features

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

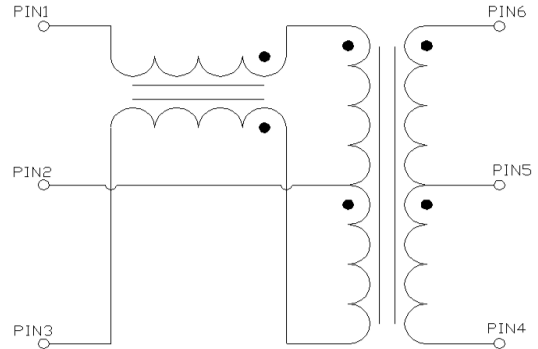
Applications

- ETHERNET

Description

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

Functional Schematic



Pin Configuration³

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

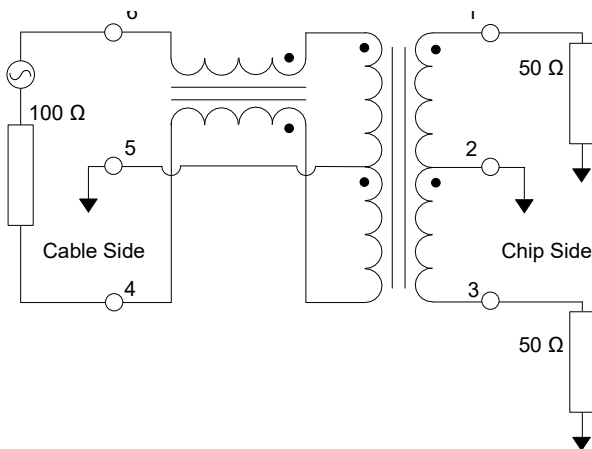
Ordering Information^{1,2}

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.

3. MACOM recommends connecting unused package pins to ground.

Application Schematic



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

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

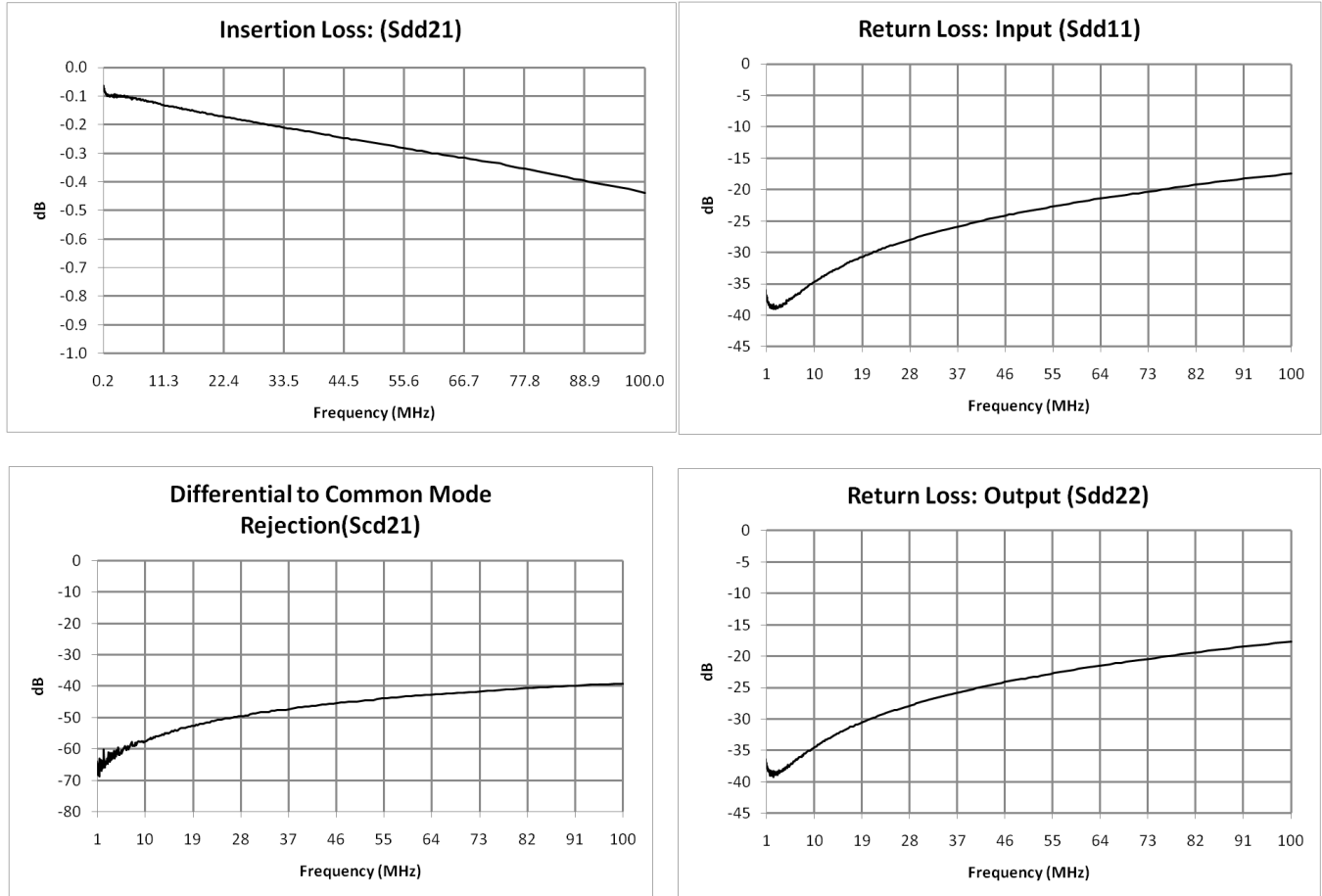
Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss (Sdd21)	0.2 - 1 MHz	dB	-0.25	-0.10	—
	1 - 3 MHz		-0.25	-0.20	
	3 - 10 MHz		-0.5	-0.20	
	10 - 65 MHz		-0.5	-0.30	
	65 - 100 MHz		-0.6	-0.43	
Return Loss (Sdd11 and Sdd22)	1 - 100 MHz	dB	—	-15	-12
Differential to Common Mode Rejection (Scd21)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

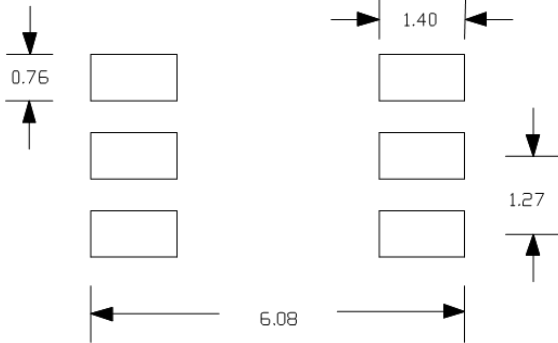
4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.
6. Specified at 25°C only and measured at 900 MHz & 1800 MHz.

Typical Performance Curves⁶



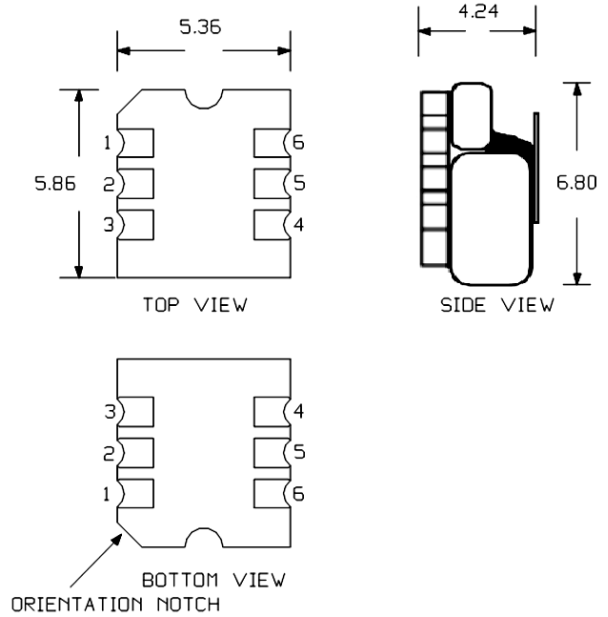
6. Full temperature plots available on request.

Recommended Board Layout⁷



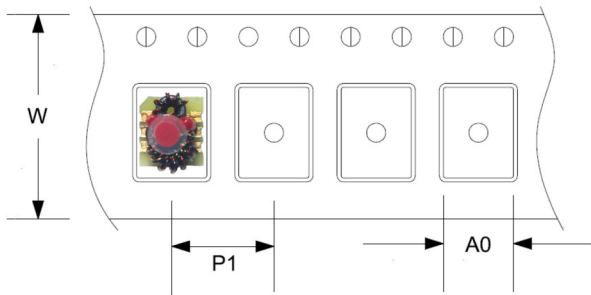
7. Recommended PCB layout shown above uses 1.6 mm FR4, Grounded coplanar wave guide, transmission line width 0.70 mm and gap 0.57 mm.

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		

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