

1:1 Transmission Line Transformer 50 - 1200 MHz

Rev. V4

Features

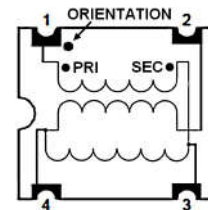
- Surface Mount Technology
- 1:1 Impedance
- Excellent Temperature Stability
- Available on Tape & Reel

Description

MABA-008483-CT1760 is a welded surface mount technology 1:1 transmission line transformer designed for high volume CATV Broadband applications.

Suitable for use in 50 Ω and 75 Ω systems.

Functional Schematic



Pin Configuration³

Pin #	Function	Pin #	Function
1	Primary Dot	3	Secondary Dot
2	Secondary	4	Primary

Electrical Specifications: Freq. = 50 - 1200 MHz, T_A = +25°C, Z₀ = 75 Ω

Parameter	Frequency Test Conditions (MHz)	Units	Min.	Typ.	Max.
Insertion Loss 1 (Through) pin 3 to pin 1	50	dB	—	0.13	0.33
	870			0.53	0.93
	1002			0.63	1.18
	1200			0.83	1.93
Insertion Loss 2 (Coupled) pin 2 to pin 1	50	dB	—	0.43	0.47
	870			0.33	0.63
	1002			0.43	0.78
	1200			0.63	1.33
Amplitude Balance	50	dB	—	0.3	-0.6
	870			-0.1	+0.7
	1002			-0.2	+0.7
	1200			-0.2	+0.8
Phase Balance	50 - 1002	°	—	1.2	± 4.0
	1002 - 1200			3.2	± 8.0
Input Return Loss	50 - 500	dB	18.0	23.0	—
	500 - 1002		17.5	19.0	
	1002 - 1200		11.0	18.0	

Ordering Information

Part Number	Package
MABA-008483-CT1760	900 piece reel
MABA-008483-CT17TB	Customer Test Board

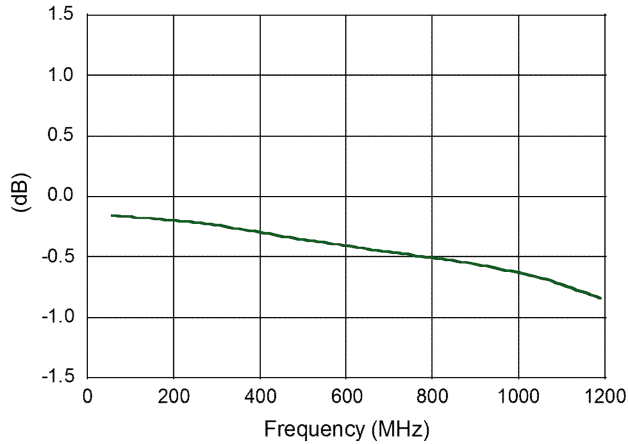
Recommended Maximum Ratings^{1,2}

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

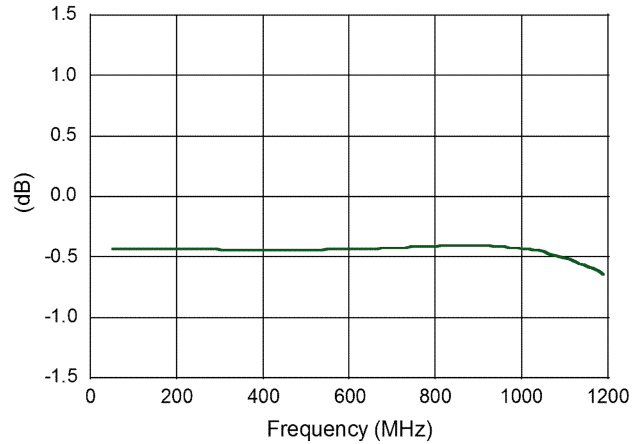
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Typical Performance Curves

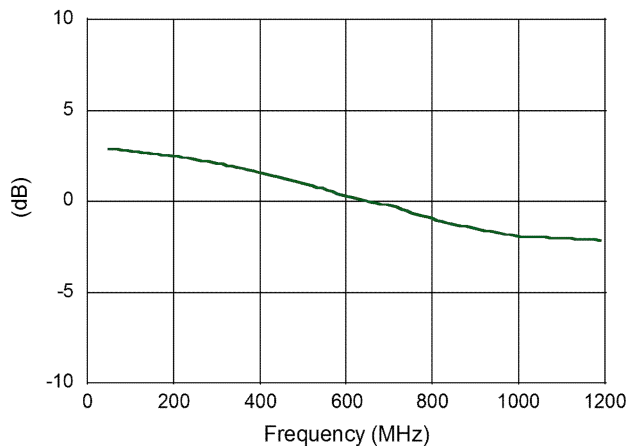
Insertion Loss 1 (thru); pin 3-1



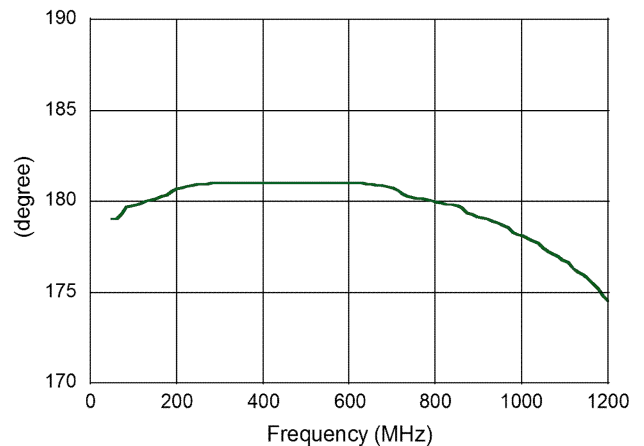
Insertion Loss 2 (coup); pin 2-1



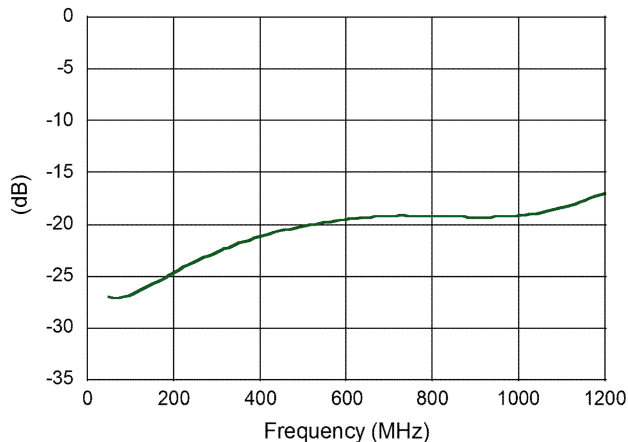
Amplitude Balance



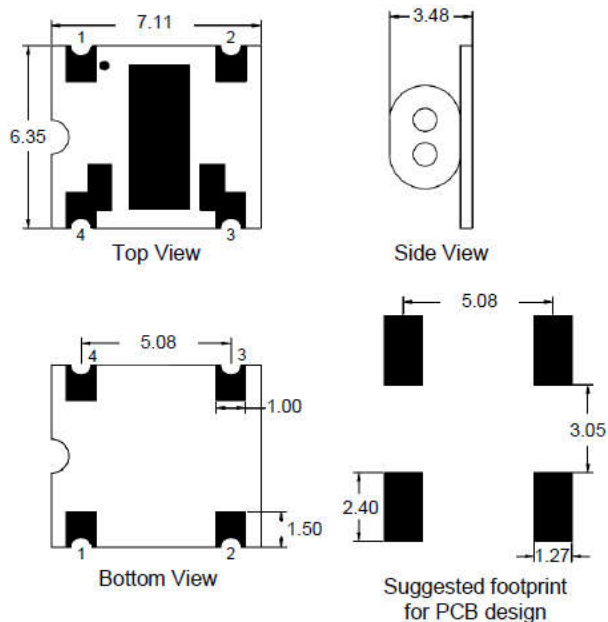
Phase Balance



Return Loss: Input



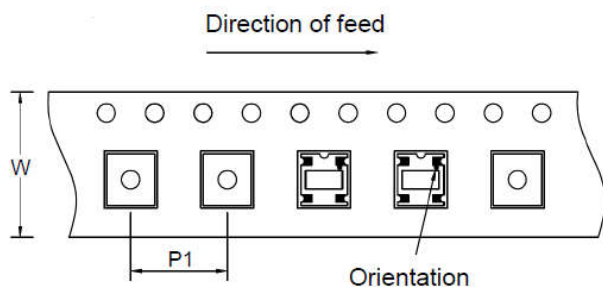
Outline Drawing^{3,4}



3. Dimensions in mm.

4. Tolerance: ± 0.2 mm unless otherwise noted.

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.0
Pitch	mm	12.0
Orientation	-	F60
Reference Application Note ANI-019 for orientation		