

1:4 E-Series RF Transmission Line Step-up Transformer 2 - 1000 MHz

Rev. V3

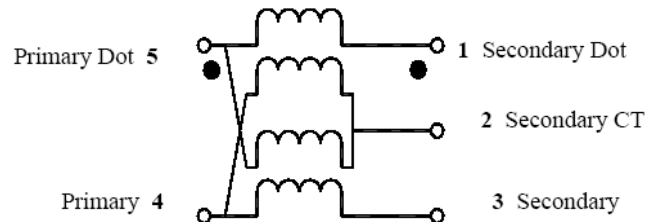
Features

- Surface Mount Package
- Wide Frequency Range
- 1:4 Impedance
- CT on Secondary
- Lead Free
- RoHS* Compliant and 260°C reflow compatible

Description

The MABA-007569-ETK42T is a RoHS compliant 1:4 RF transmission line transformer in a surface mount package. The windings of this device are welded to the package substrate for improved reliability and to eliminate lead content. Ideally suited for high volume cellular and wireless application.

Schematic



Pin Configuration

Pin No.	Function
1	Secondary Dot
2	Secondary CT
3	Secondary
4	Primary
5	Primary Dot

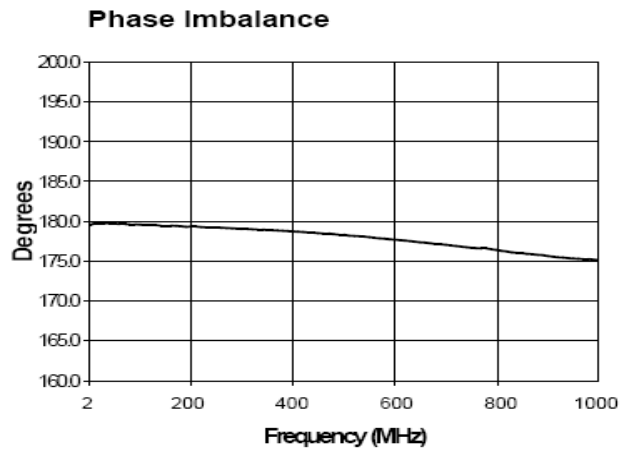
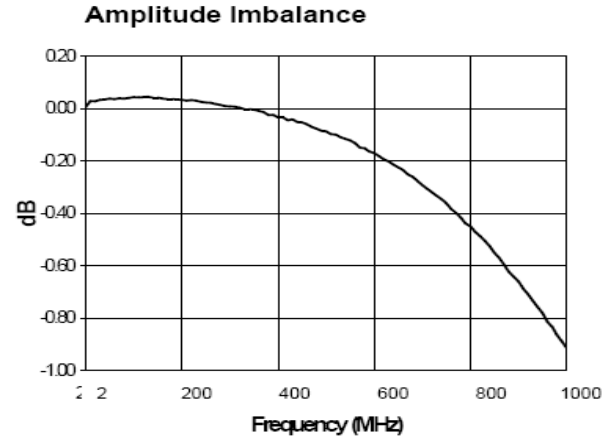
Electrical Specifications: Freq. = 2 - 1000 MHz, T_A = 25°C, Z₀ = 50 Ω

Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss	5.0 - 250 MHz	dB	—	0.32	1.0
	3.0 - 500 MHz				2.0
	2.5 - 700 MHz				3.0
	2.0 - 1000 MHz				4.0
Amplitude Unbalance	2.0 - 300 MHz	dB	—	—	0.3
	300 - 1000 MHz				2.0
Phase Unbalance	2.0 - 300 MHz	Degrees	—	—	5
	300 - 1000 MHz				20

Electrical Specifications: Freq. = 2 - 1000 MHz, T_A = 25°C, Z₀ = 75 Ω

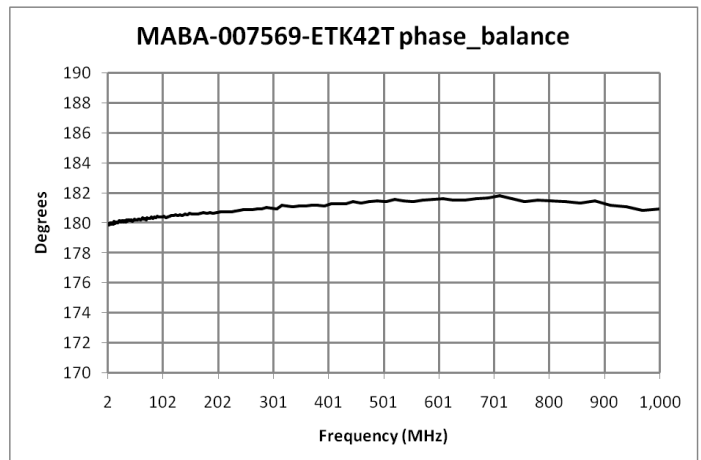
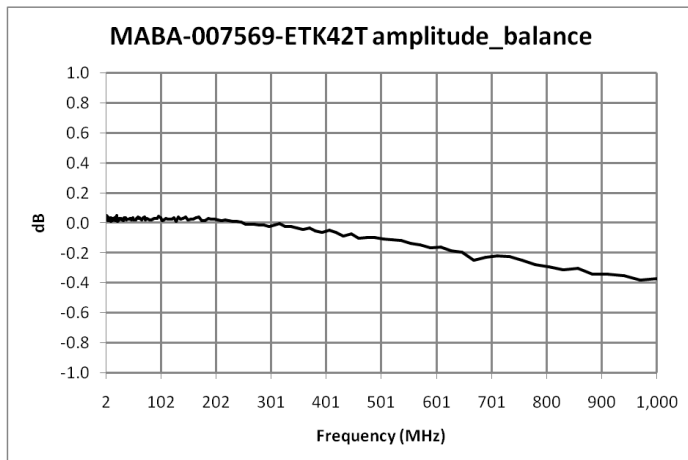
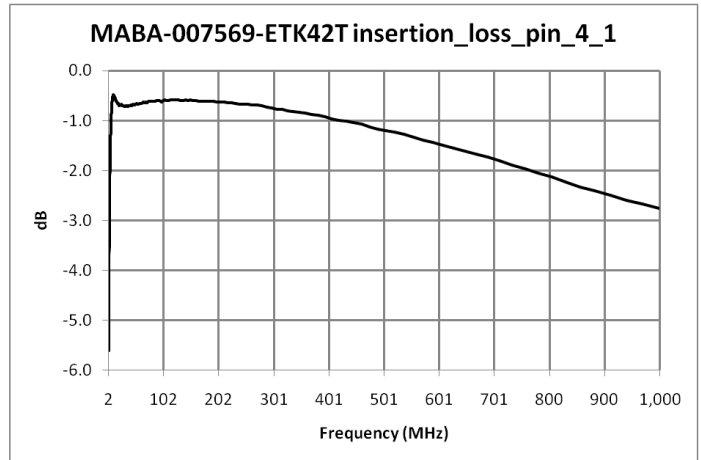
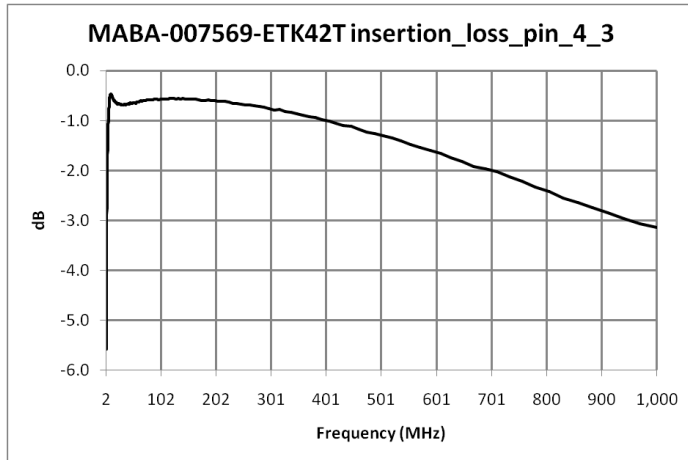
Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss	8.0 - 250 MHz	dB	—	—	1.0
	5.0 - 500 MHz				2.0
	4.0 - 700 MHz				3.0
	700 - 1000 MHz				4.5
Amplitude Unbalance	2.0 - 300 MHz	dB	—	—	0.3
	300 - 1000 MHz				2.0
Phase Unbalance	2.0 - 300 MHz	Degrees	—	—	5
	300 - 1000 MHz				20

Typical Performance Curves: Freq. = 2 - 1000 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 50 \Omega$



Temperature data available on request

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Absolute Maximum Ratings^{1,2}

Parameter	Rating
Input Power	250 mW
DC Current	30 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

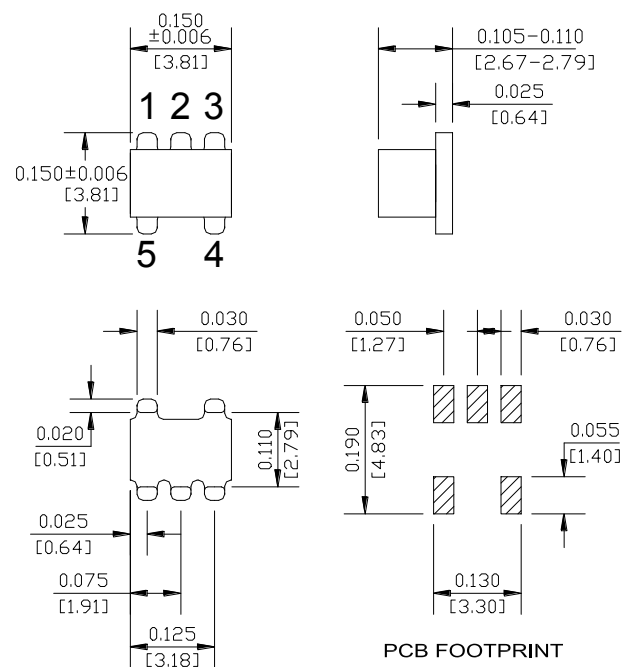
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Ordering Information³

Part Number	Package
MABA-007569-ETK4-2T	2000 piece reel

3. Reference Application Note M513 for reel size information.

SM-22 package



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel size	mm	330
Tape width (W)	mm	12.00
Pitch (P ₁)	mm	8.00
A ₀	mm	4.0
B ₀	mm	4.3
K ₀	mm	2.9
Orientation	-	F5
Reference Application note ANI-019 for orientation		