

# "High Frequency Ceramic Solutions"

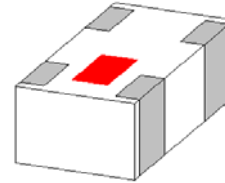
**Miniature 2.45GHz 1:1 RF Balun**

**P/N 2450BL07A0050**

Detail Specification: 08/02/12

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General Specifications	
Part Number	2450BL07A0050
Frequency (MHz)	2400~2500
Unbalanced Impedence	50 $\Omega$
Differential Balanced Impedance	50 $\Omega$
Insertion Loss	1.0 dB max.
Return Loss	9.5 min.
Phase Difference (degree)	180 $\pm$ 10
Amplitude Difference	2.0 dB max.
Operating Temperature	-40 to +85°C
Power Capacity	2 Watt max.



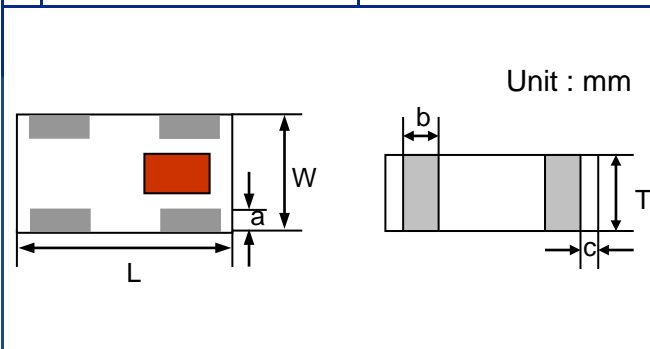
Recommended Storage Conditions	+5 to +35 °C, Humidity 45~75%RH
Reel Quantity	10,000
Storage Period	18 months max.

## Part Number Explanation

P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 2450BL07A0050S
		T & R (10000 pcs)	Suffix = T	eg. 2450BL07A0050T
	Termination style	100% Tin	Suffix = None	eg. 2450BL07A0050 (T or S)
	Evaluation Board	2450BL07A0050-EBSMA (x3 SMA Connectors)		

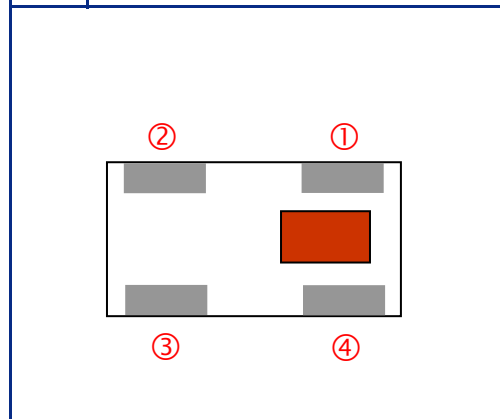
## Mechanical Dimensions

	In	mm
L	0.039 $\pm$ 0.004	1.00 $\pm$ 0.10
W	0.020 $\pm$ 0.004	0.50 $\pm$ 0.10
T	0.015 $\pm$ 0.020	0.37 $\pm$ 0.50
a	0.004 + 0.004 / -0.002	0.10 + 0.10 / -0.05
b	0.010 + 0.004 / -0.002	0.25 + 0.10 / -0.05
c	0.004 + 0.004 / -0.002	0.10 + 0.10 / -0.05



## Terminal Configuration

No.	Function
1	Unbalanced Port (IN)
2	Balanced Port (OUT1)
3	Balanced Port (OUT2)
4	GND



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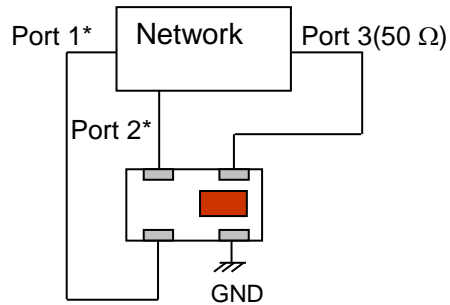
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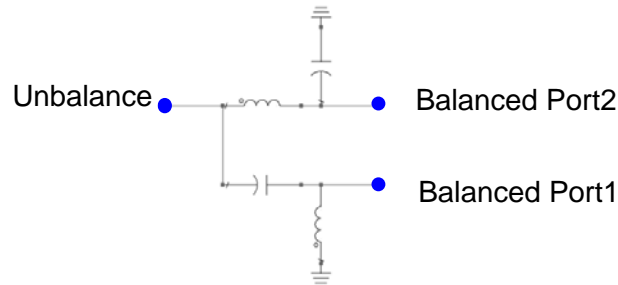
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## Measuring Diagram



Port 3: Unbalanced Port  
 Ports 1 and 2: Balanced Port  
 $IL = S_{ds21}$   
 $RL = S_{ss11}$   
 $Amp\_balance = dB(S(2,3)/S(1,3))$   
 $Phase\_balance = Phase(S(2,3)/S(1,3))$   
 \*Impedance for ports 1 and 2 = Balanced Impedance/2  
 \*\*E5071B from Agilent

## Equivalent Circuit



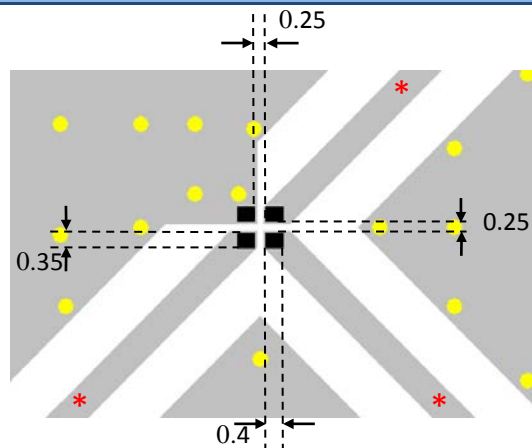
## Mounting Considerations

\* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

### LEGEND

- Solder Resist
- Land
- Through-hole (φ0.3)

Unit : mm



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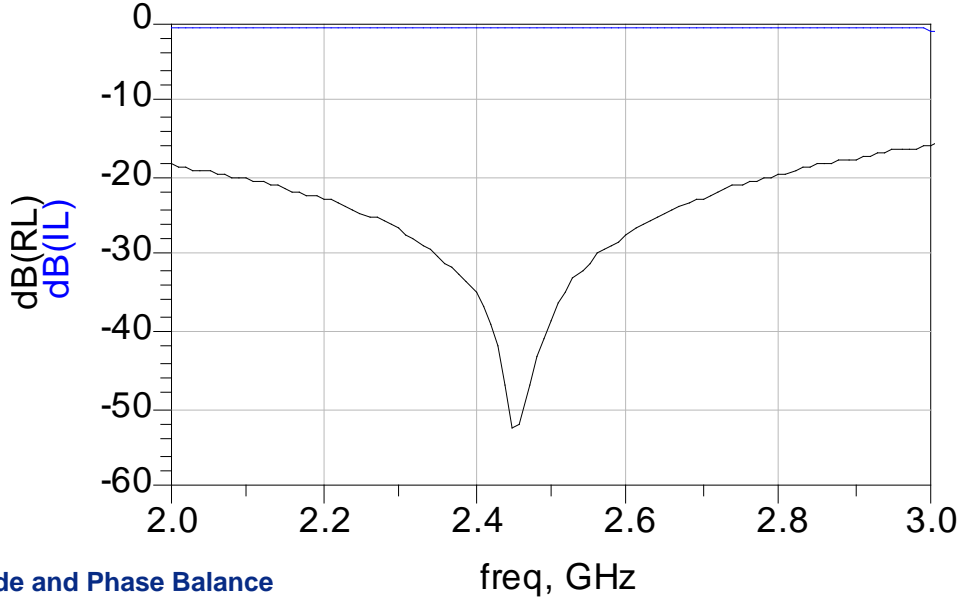
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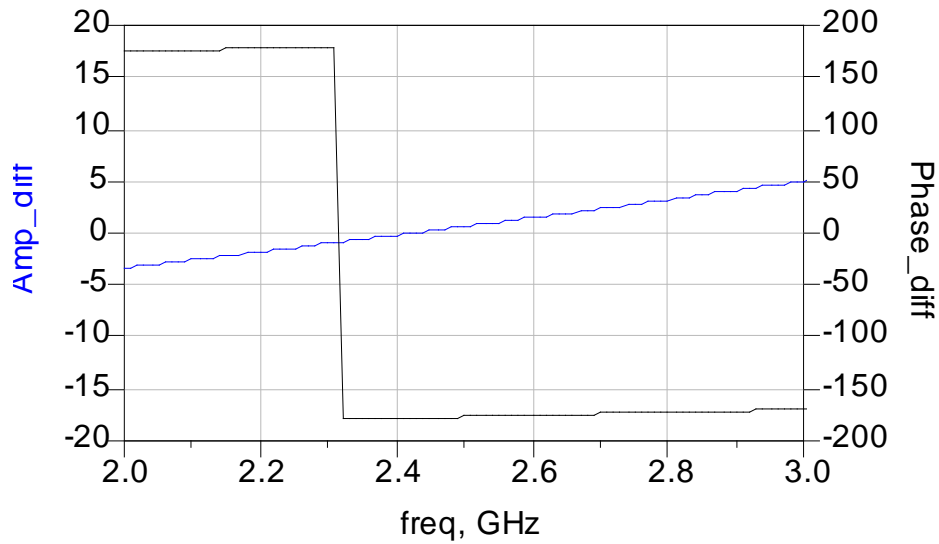
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## Typical Electrical Performance (T=25°C)

### Insertion and Return Loss



### Amplitude and Phase Balance



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