

BL 2012 Series

Multilayer Chip Baluns

Features

- ❖ Monolithic SMD with small, low-profile and light-weight type.

Applications

- ❖ 0.8 ~ 6 GHz wireless communication systems, including DECT/PACS/PHS/GSM/DCS phones, WLAN card, Bluetooth modules, Hyper-LAN, etc.



Specifications

Part Number	Frequency Range (MHz)	Unbalanced Impedance (ohm)	Balanced Impedance (ohm)	Insertion Loss (dB)	VSWR @BW	Phase Difference (degree)	Amplitude Difference (dB)
BL2012-10B2450_	2400 ~ 2500	50	100	1.0 max.	2.0 max.	180 ± 10	2 max.

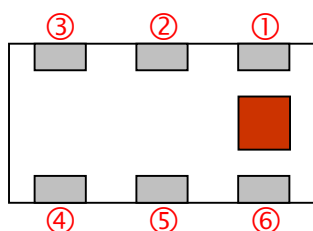
Q'ty/Reel (pcs) : 4000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Power Capacity : 3W max.

Part Number

BL 2012 - 10 B 2450 □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

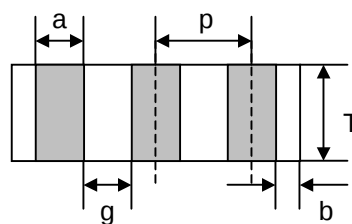
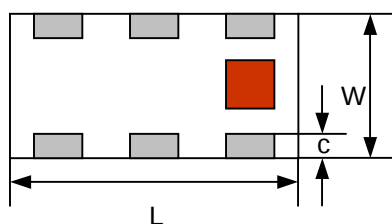
① Type	BL : Balun	② Dimensions (L × W)	2.0 × 1.25 mm
③ Balanced Impedance	10 : 100 ohm	④ Specification Code	B
⑤ Central Frequency	2450 : 2450MHz	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	lead-containing /LF=lead-free		

Terminal Configuration



No.	Terminal Name	No.	Terminal Name
①	Unbalanced Port (IN)	④	Balanced Port (OUT2)
②	GND or DC feed + RF GND	⑤	GND
③	Balanced Port (OUT1)	⑥	NC

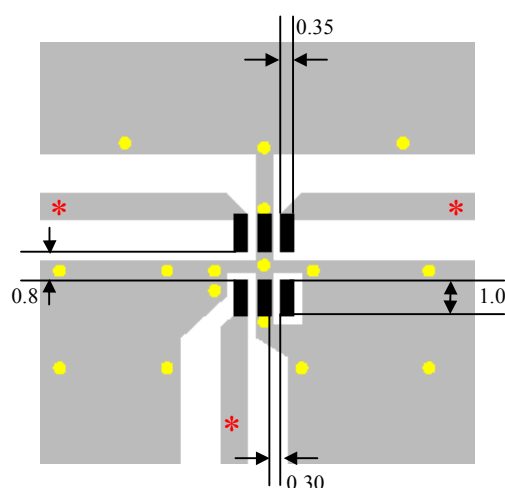
Dimensions and Recommended PC Board Pattern



Unit : mm

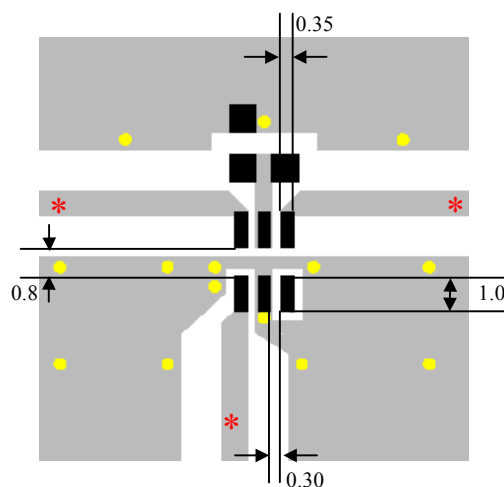
Mark	L	W	T	a	b	c	g	p
Dimensions	2.0 ± 0.1	1.25 ± 0.1	0.85 ± 0.1	0.3 ± 0.1	0.2 ± 0.1	$0.3+0.1/-0.2$	0.35 ± 0.1	0.65 ± 0.05

Without DC feed



- Solder Resist
- Land
- Through-hole ($\phi 0.3$)

With DC feed



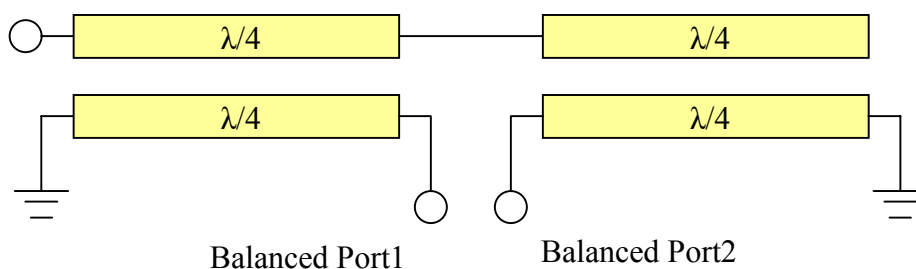
- Solder Resist
- Land
- Through-hole ($\phi 0.3$)

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

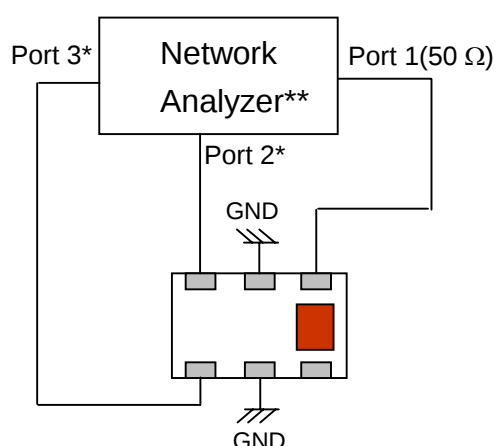
** By-pass capacitor should be connected when feeding DC power.

Equivalent Circuit

Unbalanced Port



Measuring Diagram



Port 1: Unbalanced Port

Ports 2 and 3: Balanced Port

$IL = S_{ds21}$

$RL = S_{ss11}$

$Amp_balance = dB(S(2,1)/S(3,1))$

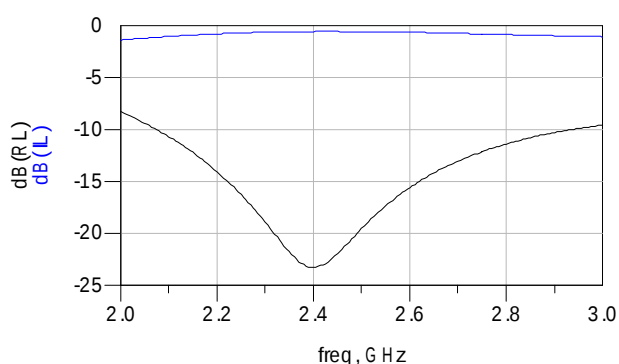
$Phase_balance = Phase(S(2,1)/S(3,1))$

*Impedance for ports 2 and 3 = Balanced Impedance/2

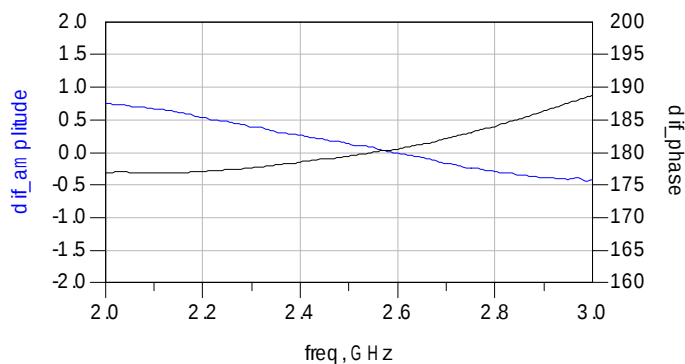
**E5071B from Agilent

Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance



Notes

❖ The contents of this data sheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

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