

BL 1005 Series

Multilayer Chip Baluns

Features

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



Applications

- ❖ 758 ~ 821 MHz wireless communication systems.

Specifications

Part Number	Frequency Range (MHz)	Unbalanced Impedance (ohm)	Balance Impedance (ohm)	Insertion Loss (dB)	Return Loss (dB)	Phase Difference (degree)	Amplitude Difference (dB)
BL1005-10D0790	758 ~ 821	50	100	0.8max.	15 min.	180 ± 10	2 max.

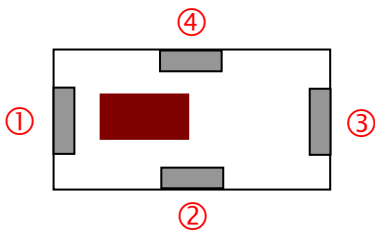
Q'ty/Reel (pcs) : 10000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : -40 ~ +85 °C
 Storage Period : 12 months max.*
 *12 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.
 Solder Paste : SAC 305 type is recommended.
 Power Capacity : 3W max.

Part Number

BL 1005 - 10 D 0790 □ /LF
 ① ② ③ ④ ⑤ ⑥ ⑦

① Type	BL : Balun	② Dimensions (L x W)	1.0 x 0.5 mm
③ Balun Impedance	10:100 ohm	④ Specification Code	D
⑤ Frequency Range	0790=790MHz	⑥ Packaging	T: Tape & Reel B: Bulk
⑦ Soldering	/LF=lead-free		

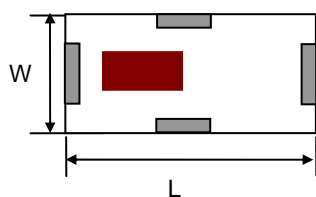
Terminal Configuration



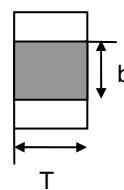
No.	Terminal Name	No.	Terminal Name
①	Balanced Port	③	Balanced Port
②	Unbalanced Port	④	GND

Dimensions and Recommended PC Board Pattern

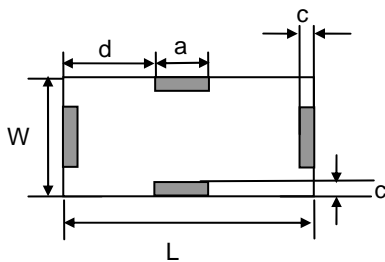
Unit : mm



<Top view>

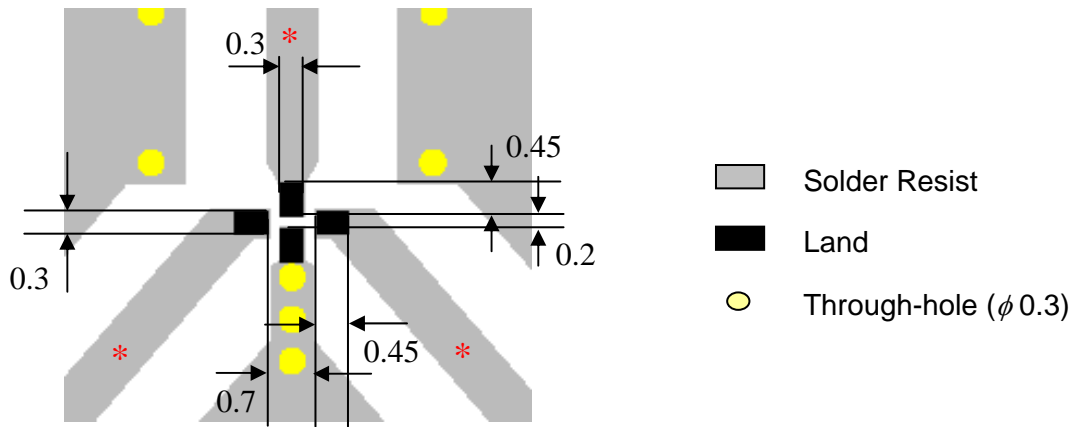


<Side view>



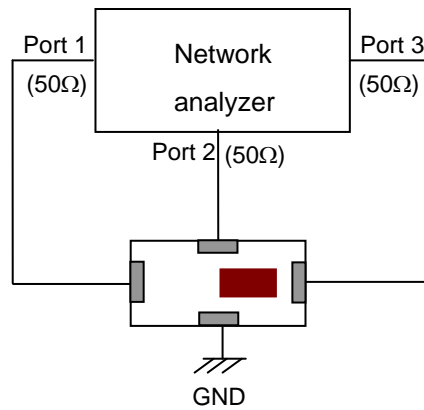
<Bottom view>

Mark	L	W	T	a	b	c	d
Dimensions	1.0 ±	0.5 ±	0.38 ±	0.3 ±	0.3 ±	0.1 ±	0.35 ±
	0.1	0.05	0.05	0.10	0.10	0.05	0.1



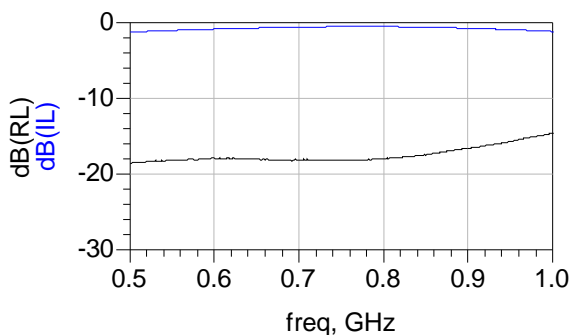
* Line width should be designed to match 50 Ω characteristic impedance, depending on PCB material and thickness.

Measuring Diagram

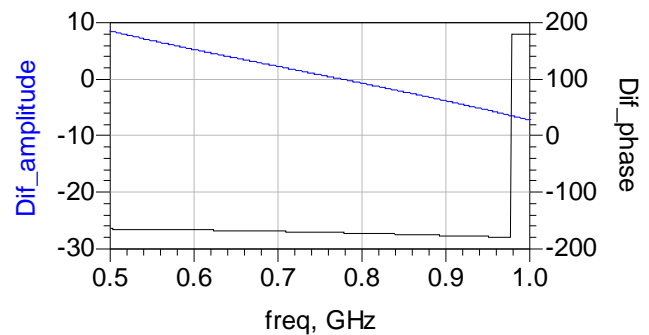


Typical Electrical Characteristics (T=25°C)

Insertion and Return Loss



Amplitude and Phase Balance

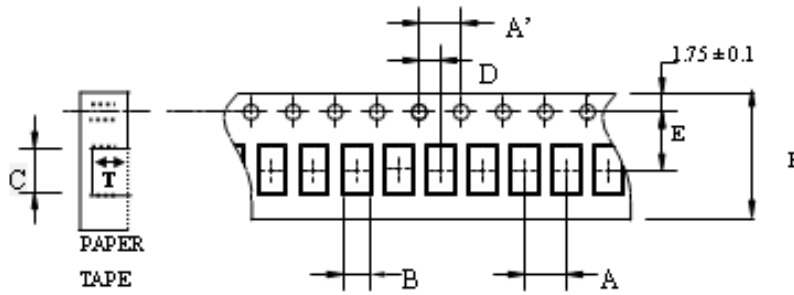


Notes

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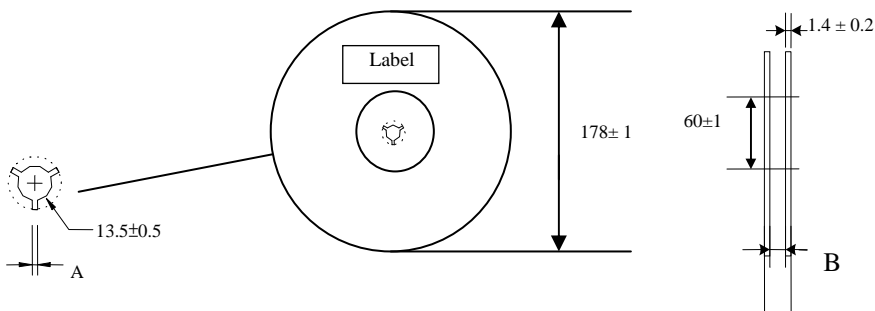
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
1005	2.0±	4.0±	0.62±	1.12±	2.0±	3.5±	8.0±	0.45±	10,000pcs	Paper
	0.05	0.1	0.03	0.03	0.05	0.05	0.1	0.03		

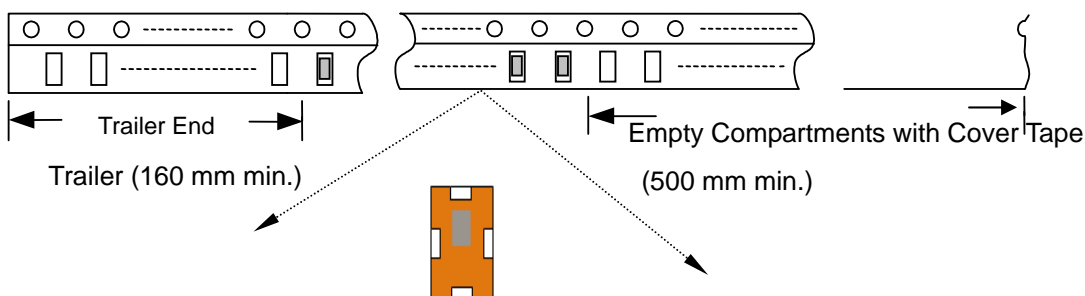
❖Reel Dimensions (Unit: mm)



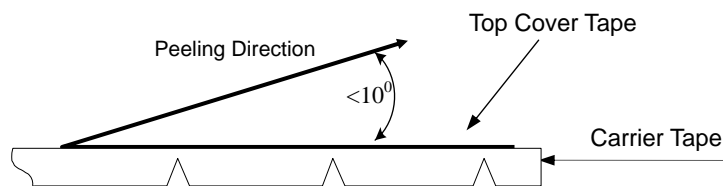
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
1005	2.3±0.5	9.0±0.3

❖Leader and Trailer Tape



❖ **Peel-off Force**



Peel-off force should be in the range of 0.1 – 0.6 N at a peel-off speed of 300 ± 10 mm/min .

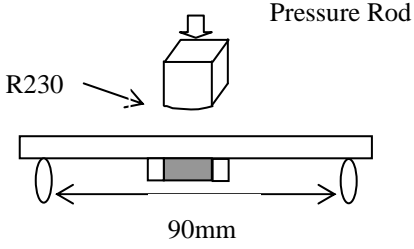
❖ **Storage Conditions**

- (1) Temperature: 5 ~35°C , relative humidity (RH): 45~75%.
- (2) Non-corrosive environment.

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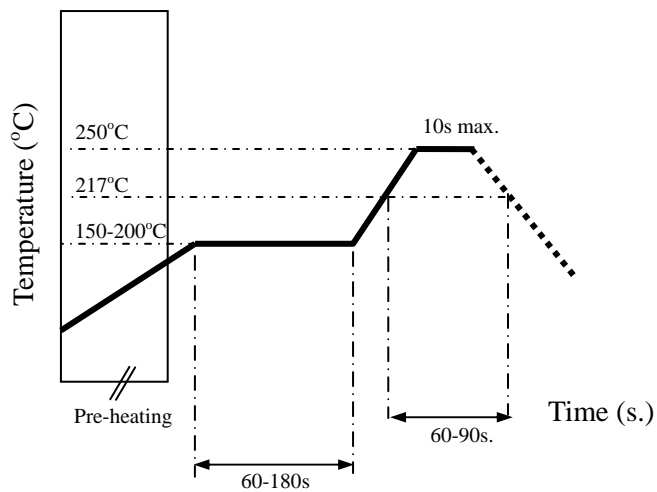
Mechanical & Environmental Characteristics

Item	Requirements	Procedure
Solderability	<ol style="list-style-type: none"> No apparent damage More than 75% of the terminal electrode shall be covered with new solder. 	<ol style="list-style-type: none"> Preheat: $120 \pm 5^\circ\text{C}$ Solder: $245 \pm 5^\circ\text{C}$ for 5 ± 1 sec
Soldering strength (Termination Adhesion)	<ol style="list-style-type: none"> 3N minimum 	<ol style="list-style-type: none"> Solder specimen onto test jig. Apply push force at 0.5mm/s until electrode pads are peeled off or ceramic are broken. Pushing force is applied to longitude direction
Deflection (Substrate Bending)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification 	<ol style="list-style-type: none"> Solder specimen onto test jig (FR4, 0.8mm) using the recommend soldering profile. Apply a bending force of 2mm deflection 
Heat/Humidity Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $85 \pm 2^\circ\text{C}$ Humidity: 90% ~ 95% RH Duration: 1000 ± 48hrs Recovery: 1-2hrs
Thermal shock (Temperature Cycle)	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> One cycle/step 1 : $125 \pm 5^\circ\text{C}$ for 30 min step 2 : $-40 \pm 5^\circ\text{C}$ for 30 min No of cycles : 100 Recovery: 1-2 hrs
Low Temperature Resistance	<ol style="list-style-type: none"> No apparent damage Fulfill the electrical specification after test 	<ol style="list-style-type: none"> Temperature: $-40 \pm 5^\circ\text{C}$ Duration: 500 ± 24hrs Recovery: 1-2hrs

Soldering Conditions

❖ Typical Soldering Profile for Lead-free Process

Reflow Soldering :



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Advanced Ceramic X Corp.

16 Tzu Chiang Road, Hsinchu Industrial District Hsinchu Hsien 303, Taiwan

TEL:886-3-5987008 FAX:886-3-5987001

E-mail: acx@acxc.com.tw

<http://www.acxc.com.tw>