

FB2015 Series

Multilayer Chip Band Pass Filter + Balun

Features

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

Applications

❖ For LNB applications.



Specifications

Part Number	Freq. Range (MHz)	Unbalanced Impedance (ohm)	Balanced Impedance (ohm)	Insertion Loss @ BW (dB)	VSWR @ BW	25 MHz Ripple (dB)	Phase Diff. (degree)	Amp. Diff. (dB)	Attenuation (dB)
FB2015-07L1R9B_	1650 ~ 2150	50	75	3.5 max.	2.0 max.	0.3 max.	180±20	2.0 max.	24min. @ 940~1450MHz

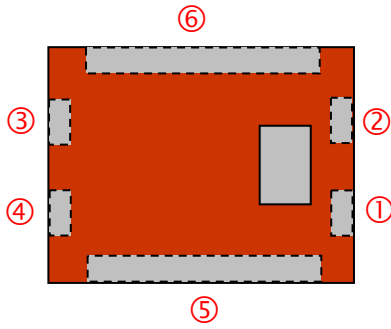
Q'ty/Reel (pcs) : 4,000
 Operating Temperature Range : -40 ~ +85 °C
 Storage Temperature Range : +5 ~ +35 °C, Humidity 45~75%RH
 Storage Period : 12 months max.*
 *12 months in vacuum sealed bag and 1 week after opened. Please keep unused parts in vacuum sealed bags.
 Solder Paste : SAC 305 type is recommended.
 Power Capacity : 0.5W max.

Part Number

FB **2015** - **07** **L** **1R9** **B** **□** **□**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

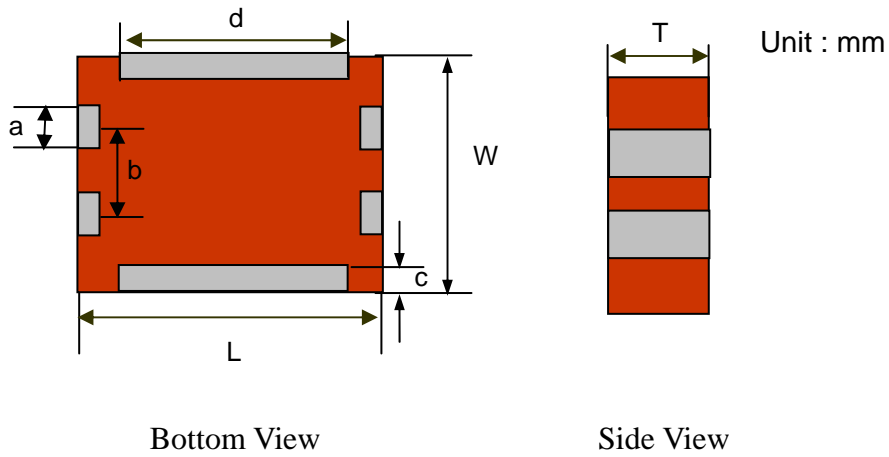
① Type	FB : Band Pass Filter + Balun	② Dimensions (L × W)	2.0 × 1.5 mm
③ Balanced Impedance	07 : 75 ohm	④ Material Code	L
⑤ Central Frequency	1R9 : 1900MHz	⑥ Specification Code	B
⑦ Packaging	T: Tape & Reel B: Bulk	⑧ Soldering	=lead-containing /LF=lead-free

Terminal Configuration



No.	Terminal Name	No.	Terminal Name
①	Unbalanced Port	④	Balanced Port
②	GND	⑤	GND
③	Balanced Port	⑥	GND

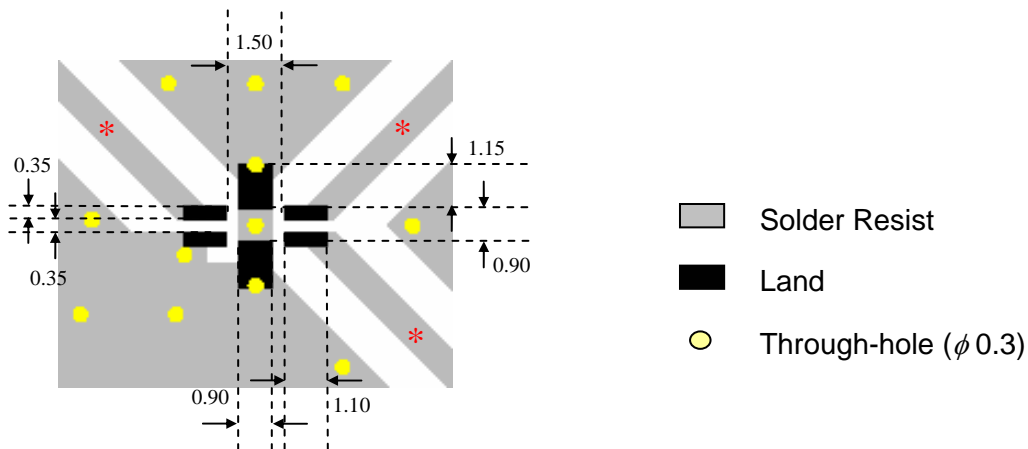
Dimensions and Recommended PC Board Pattern



Bottom View

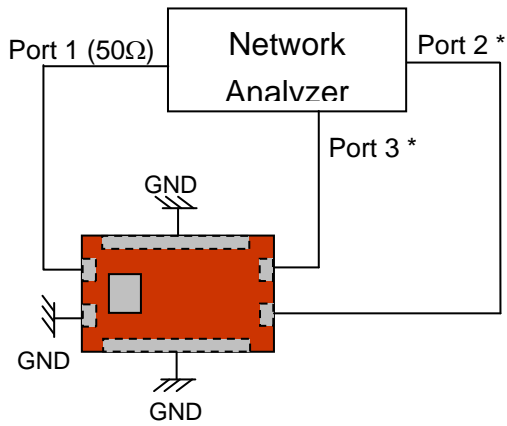
Side View

Mark	L	W	T	a	b	c	d
Dimensions	2.0 ±	1.5 ±	0.95 ±	0.3 ±	0.7 ±	0.25 ±	0.8 ±
	0.15	0.15	0.1	0.1	0.15	0.15	0.15



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

Measuring Diagram



Port 1: Unbalanced Port

Ports 2 and 3: Balanced Port

$$IL = S_{ds21}$$

$$RL = S_{ss11}$$

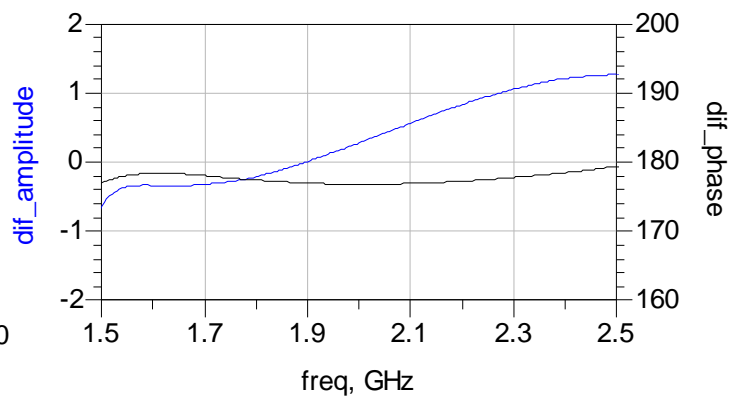
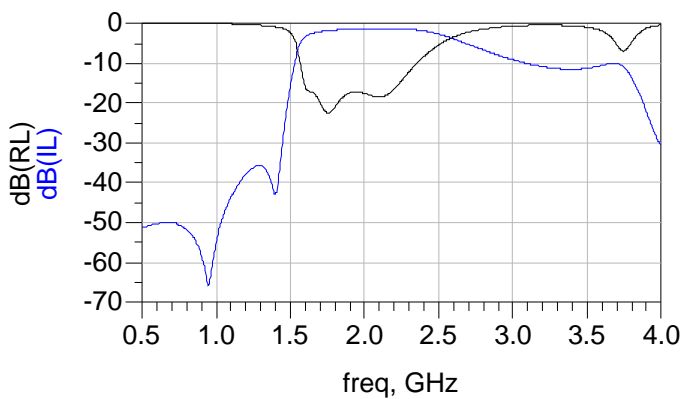
$$\text{Amp_balance} = \text{dB}(S(2,1)/S(3,1))$$

$$\text{Phase_balance} = \text{Phase}(S(2,1)/S(3,1))$$

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

**E5071B from Agilent

Typical Electrical Characteristics (T=25oC)

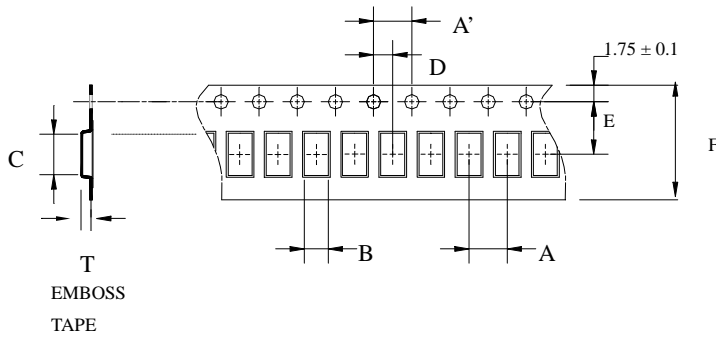


Notes

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

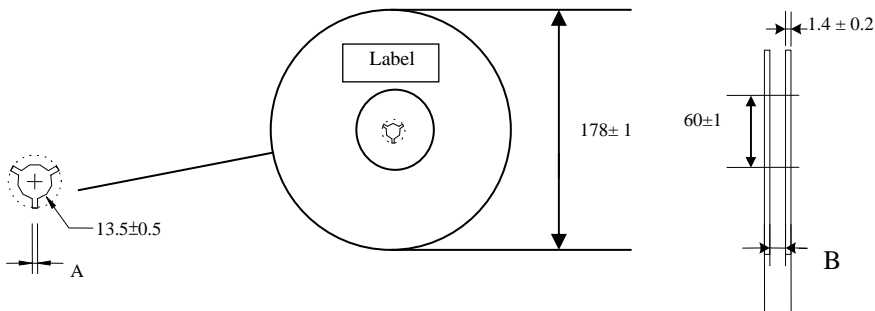
Taping Specifications

❖Tape Dimensions (Unit: mm) & Quantity



Type	A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2015	4.0±	4.0±	1.85±	2.40±	2.0±	3.5±	8.0±	1.05±	4,000pcs	Plastic (Embossed)
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05		

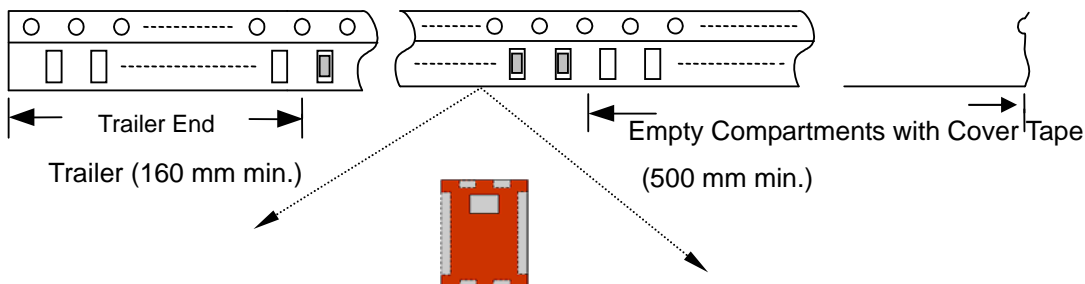
❖Reel Dimensions (Unit: mm)



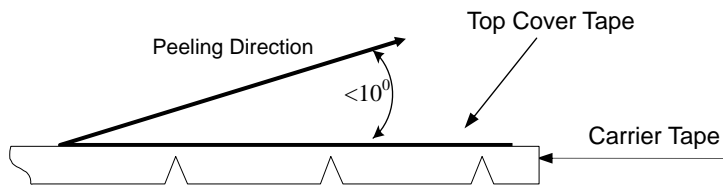
Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

Type	A	B
2015	2.3±0.5	9.0±0.3

❖Leader and Trailer Tape (Plastic material)



❖ **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 .

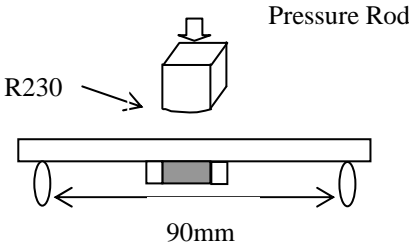
❖ **Storage Conditions**

- (1) Temperature: 15 ~35°C , relative humidity (RH): 45~75%.
- (2) Non-corrosive environment.

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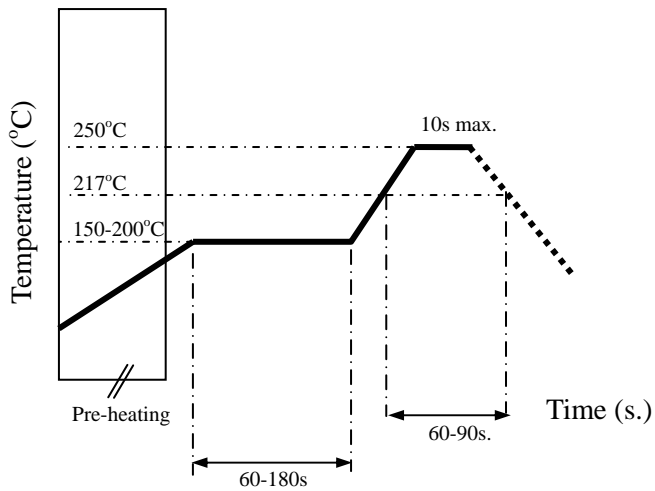
Mechanical & Environmental Characteristics

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"> 1kg 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>