ACX
Advanced Ceramic X

# BF 2012 Series

Multilayer Chip Band-Pass Filters

## Features

❖ Ultra small SMD type with low loss at pass-band and high attenuation at stop-band.
❖ HF & RoHS compliant

## 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) | Insertion Loss @ BW(dB) | VSWR @ BW | Frequency | Attenuation (dB) |
|---|---|---|---|---|---|
| BF2012-W3R5NAM_ | 3300~ 3800 | 1.5 max. | 2.0 max. | DC~2170MHz | 33 min. |
| | | | | 2300 ~ 2700MHz | 32 min. |
| | | | | 4400 ~ 4900MHz | 10 min. |
| | | | | 4900 ~ 5850MHz | 30 min. |
| | | | | 6800 ~ 7600MHz | 30 min. |
| | | | | 10200 ~ 11400MHz | 30 min. |
| | | | | 13600 ~ 15200MHz | 28 min. |

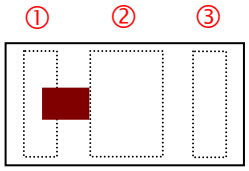
Q'ty/Reel (pcs) : 4,000
Operating Temperature Range : -40 ~ +85 °C
Storage Temperature Range : -40 ~ +85 °C
Storage Period : 12 months max.
Power Capacity : 3W max.
MSL : Level 1
ESD HBM : ±2000V

## Part Number

| BF | 2012 | - | W | 3R5 | NAM | □ | /LF |
|---|---|---|---|---|---|---|---|
| ① | ② | | ③ | ④ | ⑤ | ⑥ | ⑦ |

| | | | |
|---|---|---|---|
| ① Type | BF : Band-Pass Filter | ② Dimensions ( L × W ) | 2.0 × 1.25 mm |
| ③ Material Code | W | ④ Frequency Range | 3R5=3500MHz |
| ⑤ Specification Code | NAM | ⑥ Packaging | T: Tape & Reel<br>B: Bulk |
| ⑦ Soldering | /LF=lead-free | | |

## Terminal Configuration

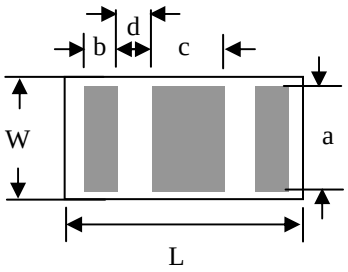



<Top View>

| No. | Terminal Name | No. | Terminal Name |
|---|---|---|---|
| ① | IN | ③ | OUT |
| ② | GND | | |

## Dimensions and Recommended PC Board Pattern

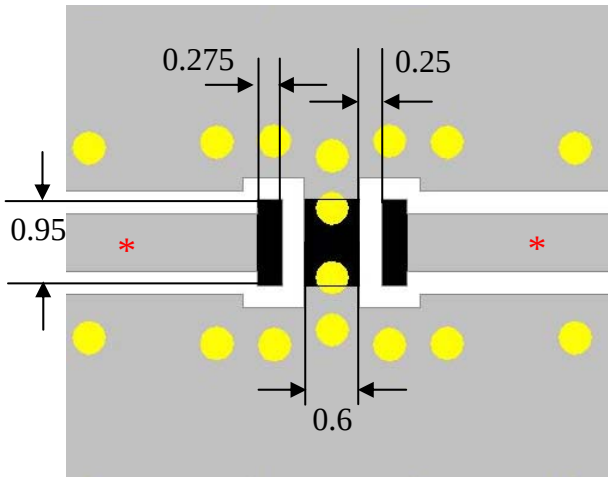
Unit : mm

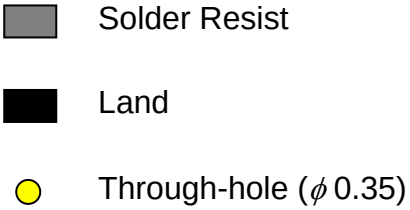



< Bottom View>


< Side View >

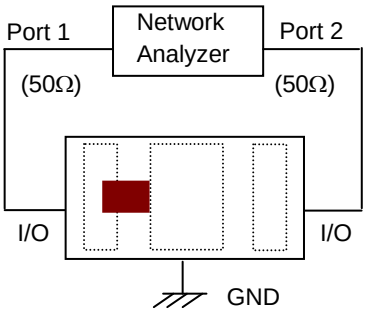
| Mark | L | W | T | a | b | c | d |
|---|---|---|---|---|---|---|---|
| Dimensions | 2.0 ± 0.15 | 1.25 ± 0.10 | 0.95 max. | 0.95 ± 0.1 | 0.275 ± 0.1 | 0.6 ± 0.1 | 0.25 ± 0.05 |



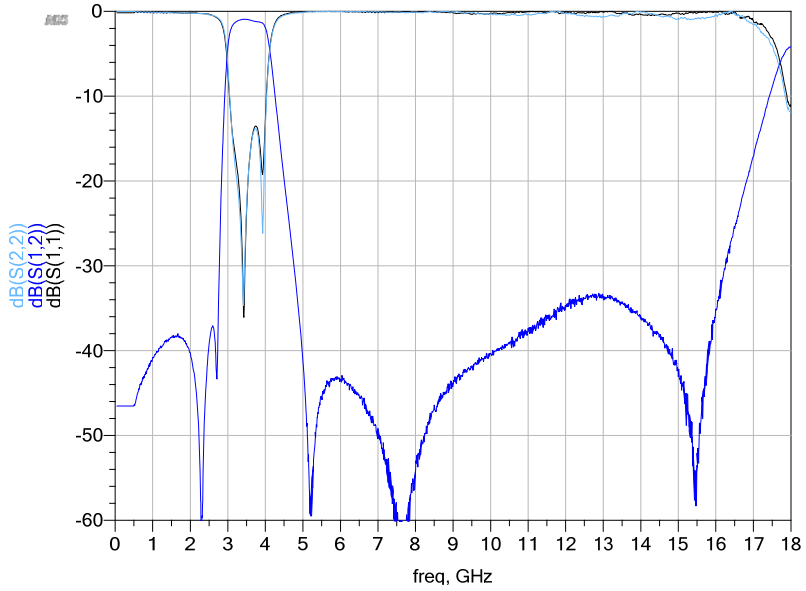




* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

## Measuring Diagram




## Electrical Characteristics (T=25°C)




## Notes

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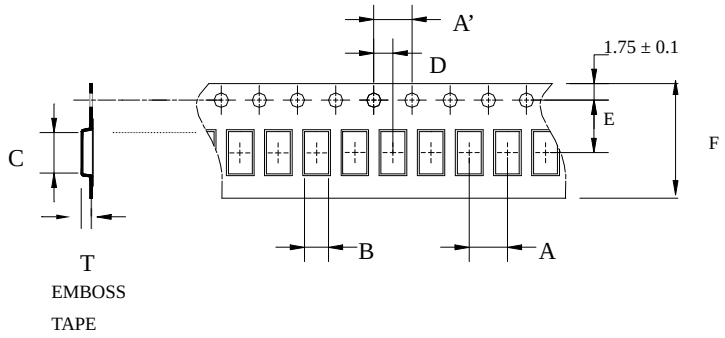
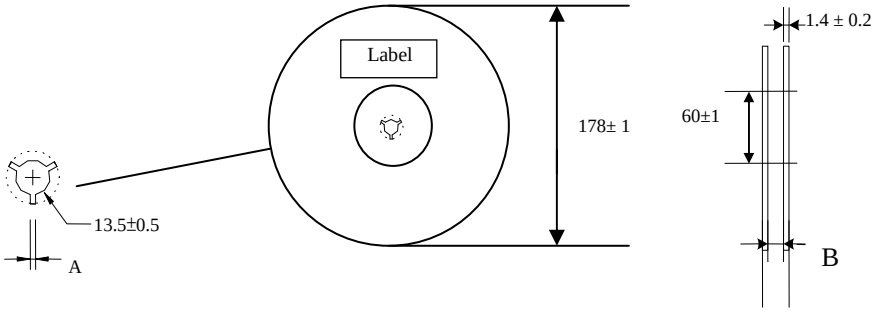
# Taping Specifications

## ❖Tape Dimensions (Unit: mm) & Quantity




| Type | A | A' | B | C | D | E | F | T | Quantity/reel | Tape material |
|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 4.0± 0.1 | 4.0± 0.1 | 1.35± 0.05 | 2.15± 0.05 | 2.0± 0.05 | 3.5± 0.1 | 8.0± 0.1 | 1.08± 0.05 | 4,000pcs | Plastic (Embossed) |

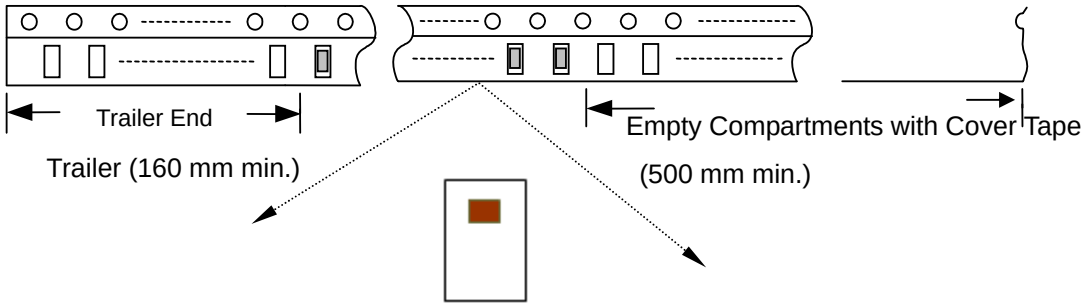
## ❖Reel Dimensions (Unit: mm)



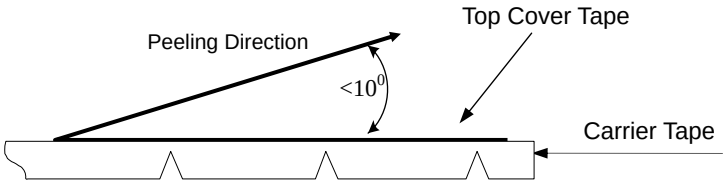

Label: Customer's Name,
ACX P/N, Q'ty, Date,
ACX Corp.

| Type | A | B |
|---|---|---|
| 2012 | 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℃, relative humidity (RH): 45~75%.
(2) Non-corrosive environment.

## Notes

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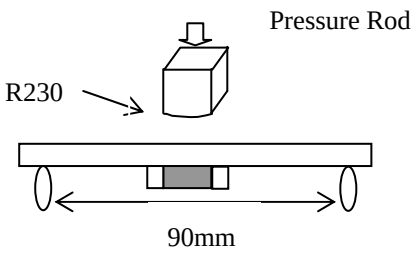
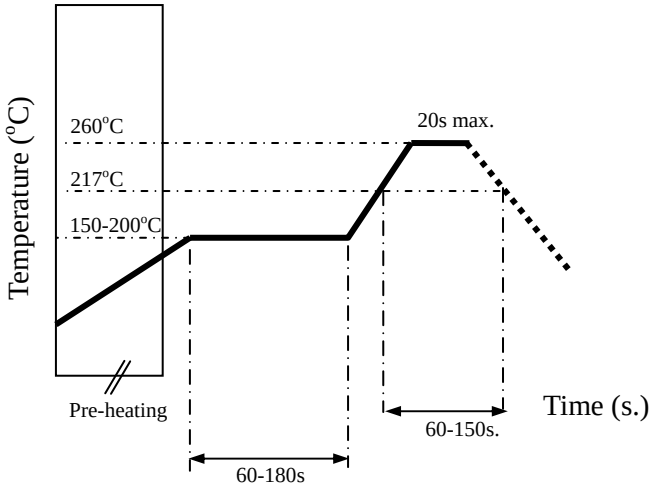
## Mechanical & Environmental Characteristics

| Item | Requirements | Procedure |
|---|---|---|
| Solderability | 1. No apparent damage.<br>2. More than 95% of the terminal electrode shall be covered with new solder. | 1. Preheat: 120± 5 °C<br>2. Solder: 245± 5°C for 5± 1 sec |
| Soldering strength (Termination Adhesion) | 1. 10N minimum | 1. Solder specimen onto test jig.<br>2. 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) | 1. No apparent damage | 1. Solder specimen onto test jig (FR4, 1.6 mm) using the recommend soldering profile.<br>2. Apply a bending force of 2mm deflection.<br>  |
| Heat/Humidity Resistance | 1. No apparent damage.<br>2. Fulfill the electrical specification after test. | 1. Temperature: 85± 2°C<br>2. Humidity: 90% ~ 95% RH<br>3. Duration: 1000±48hrs<br>4. Recovery: 1-2hrs |
| Thermal shock (Temperature Cycle) | 1. No apparent damage.<br>2. Fulfill the electrical specification after test. | 1. One cycle/step 1：125 ± 5°C for 30 min<br>step 2：- 40 ± 5°C for 30 min<br>2. No of cycles：100<br>3. Recovery:1-2 hrs |
| Low Temperature Resistance | 1. No apparent damage.<br>2. Fulfill the electrical specification after test. | 1. Temperature: -40± 5 °C<br>2. Duration: 500 ±24hrs<br>3. Recovery: 1-2hrs |

## Soldering Conditions

❖**Typical Soldering Profile for Lead-free Process**

Reflow Soldering :

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