TBF-2012-245-R1 THIN FILM BAND PASS FILTER

1. Feature:

1. 2.45GHz Thin Film Band Pass Filter
2. For ISM Band applications like Wireless LAN & Bluetooth.
3. Lead Free

2. Part Number

TBF 2012 – 245 –R1 – XX

(1) (2) (3) (4) (5)

Where (1) TBF : Thin Film Band Pass Filter

(2) Size :

4 digits of number —2012 = 2.0×1.25 mm

(3) Center Frequency :

245 = 2.45 GHz

(4) Type

Refer to Table 3-1

(5) XX

Internal Code

3. Ratings

3-1 Specifications

Part Number	TBF-2012-245-R1
Nominal Characteristics Impedance	50 Ω
Nominal Center Frequency	2450MHz
Bandwidth	2400 ~ 2500MHz
Insertion Loss	1.5 dB Max. at +25 deg. C 1.8 dB max. at –40 ~ +85 deg. C
Ripple in BW	0.5dB max.
Attenuation	30.0dB min. at 880~960MHz 25.0dB min. at 1710~1910MHz 30.0dB min. at 4800 ~ 5000MHz 30.0dB min. at 7200 ~ 7500MHz (Option)
VSWR in BW	2.0 Max.
Power Capacity	500mW Max.

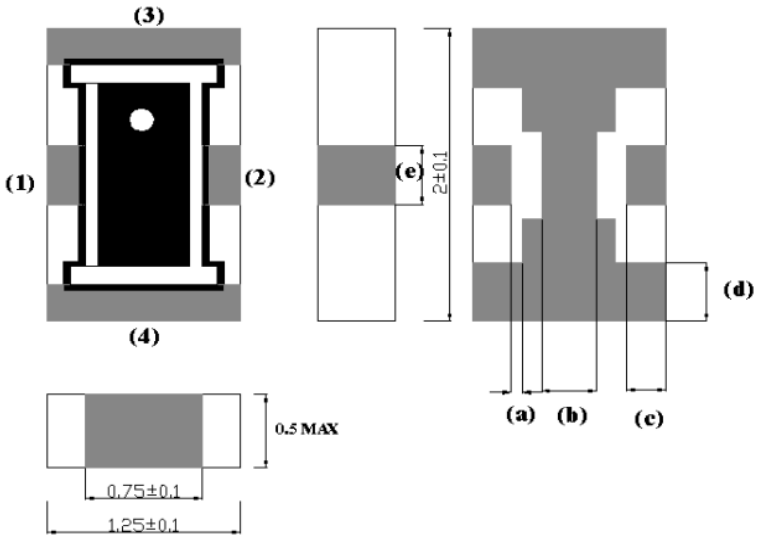
3-2 Operation Temperature: –40℃ to +85℃

3-3 Storage Temperature: +15℃ to +35℃

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4. Outline Dimension

Code	Dimension
a	0.075 ± 0.02
b	0.45 ± 0.1
c	0.25 ± 0.1
d	0.4 ± 0.1
e	0.4 ± 0.1

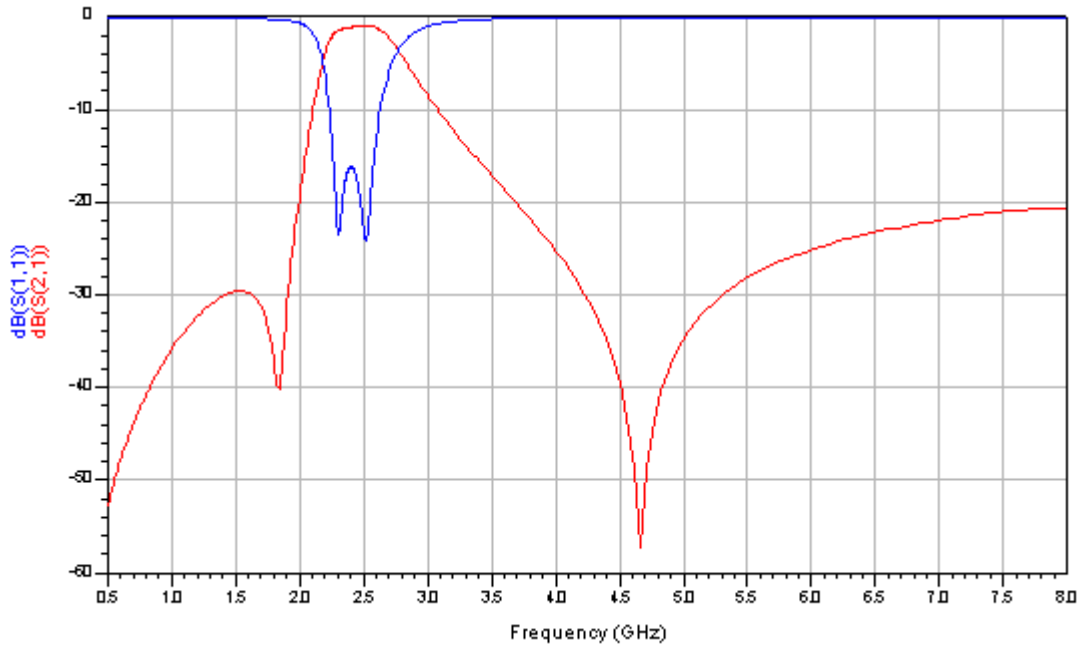


Unit : mm

Terminal Configuration:

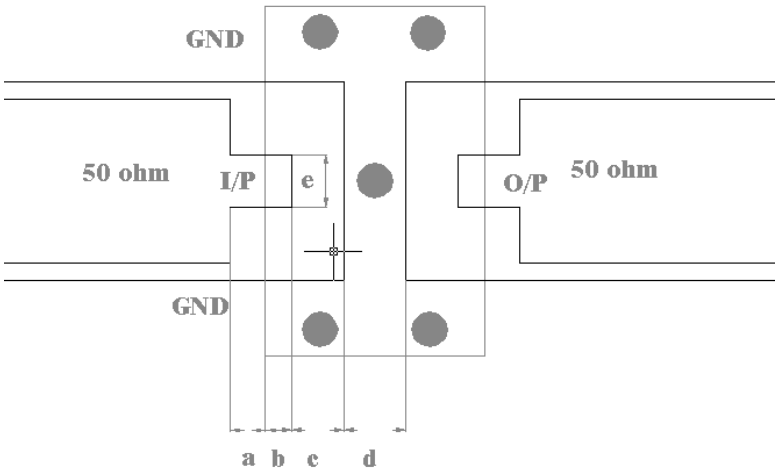
Terminal No.	Terminal Name
(1)	Input
(2)	Output
(3)	GND
(4)	GND

5. Electrical Performance



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6. **Recommended Land Pattern**



a	0.2 mm
b	0.15 mm
c	0.3 mm
d	0.35 mm
e	0.3 mm

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7. Reliability Test

7.1 Electrical

ITEM	Specification and Requirement	Test Method
Temperature Characteristics	Satisfy electrical characteristics	Solder the sample on PCB. Exposure at each temperature, -40℃, -20℃, 0℃, +25℃, +50℃, +85℃ for 30minutes

7.2 Mechanical

ITEM	Specification and Requirement	Test Method
Solderability	The Surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder bath : After immersing in flux, dip in245 ± 5 ℃ molten solder bath for 2 ± 0.5 seconds
Resistance to solder Heat	Satisfy electrical characteristics without distinct deformation in appearance	A. Pre-heat : 100 ~ 110 ℃ for 30 seconds B. Immersed at solder bath of 270 ± 5℃ for 20 ± 1 seconds
Vibration	Satisfy electrical characteristics without Mechanical damage such as break	Vibrate as apply 20 to 2,000Hz, 186m/s^2 (19G) acceleration 1.5mm amplitude for 2 hours in each of three (X, Y, Z) axis (total 6 hours).
Shock	Satisfy electrical characteristics without mechanical damaged such as break	(1) Break value : 490 N (2) Duration of pulse : 11ms (3) 3 times in each positive and negative direction of 3 mutual perpendicular directions.
Bending Test	Satisfy electrical characteristics without mechanical damage such as break	Bending value : 3mm for 30 ± 1 seconds
Solvent Resistant	Marking should be legible without mechanical and distinct damage in appearance	(1) Solvent : Trichloroethane or Isopropyl alcohol. (2) Immersed in solvent at room temperature for 90 seconds
Drop Test	Satisfy electrical characteristics without mechanical damage	Drop the sample from a height of 1m to concrete ground for 10 times

7.3 Load Life

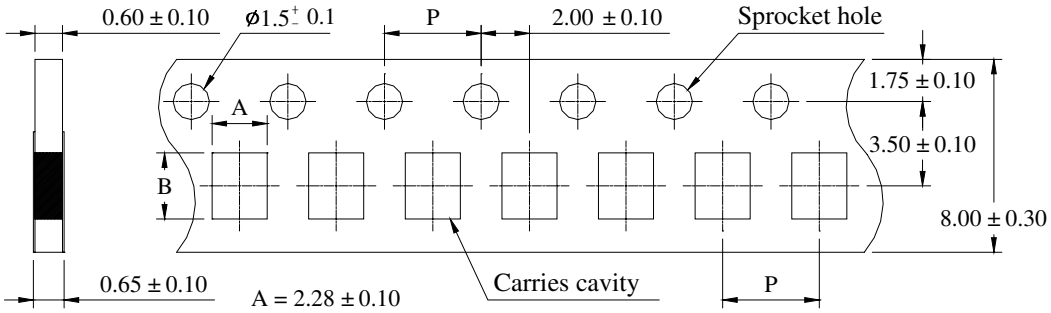
ITEM	Specification and Requirement	Test Method
Rapid change of temperature	Satisfy Electrical Characteristics. Without distinct damage.	Perform 5 cycles as follows : −55℃ for 30minutes → room temperature for 3 minutes→ +125℃ for 30minutes → room temperature for 3 minutes. (Dwell time : 5 to 8 minutes)
Humidity Resistance Test	Satisfy Electrical Characteristics. Without distinct damage.	Precondition at +25℃ for 1hour. Let stand at temperature +40 ± 3 ℃, 90~95% relative humidity for 1,000 hours before taking final measurements.
Low Temperature Store	Satisfy Electrical Characteristics. Without distinct damage.	Solder the sample on PCB. Exposure at −55 ± 3℃ for 1,000 hours. 1~2 hours exposure at room temperature and humidity, prior to measurement.
High Temperature Store	Satisfy Electrical Characteristics. Without distinct damage.	Solder the sample on PCB. Exposure at +85 ± 3℃ for 1,000 hours. 1~2 hours exposure at room temperature and humidity, prior to measurement.
Load Life	Satisfy Electrical Characteristics. Without distinct damage.	Apply 16 Volt voltage at 70±2℃ ambient

8. Packaging

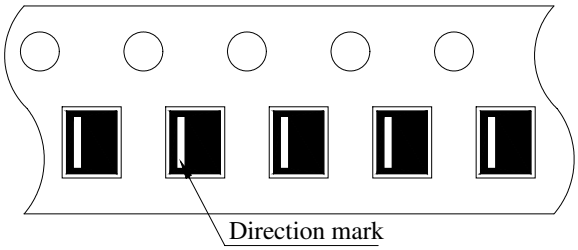
8-1 Material : Paper Carrier Tape

8-2 Dimensions

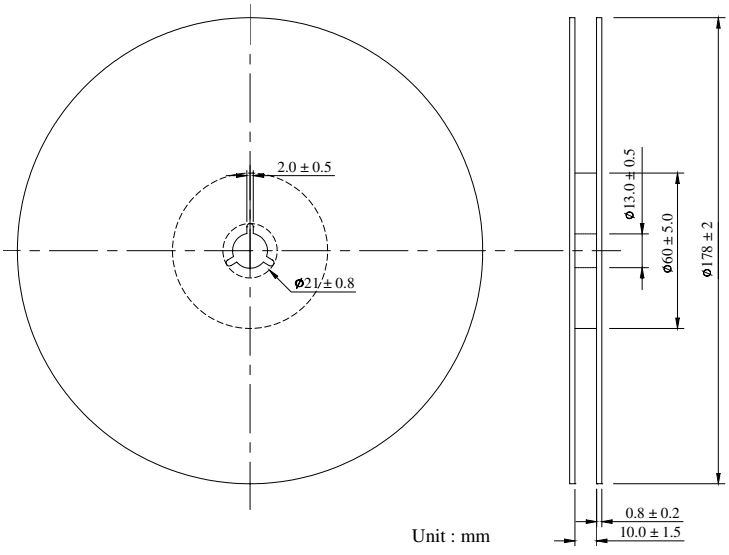
8-2-1 Tape packaging dimensions



8-2-2 Setting Direction



8-2-3 Reel dimensions

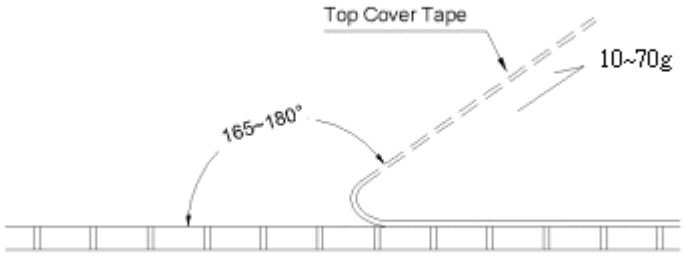


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8-3 Peel force of top cover tape

The peel speed shall be about 300 mm/minute

The peel force of top cover tape shall be between 10 to 70g



8-4 Numbers of taping

4,000 pieces/reel

8-5 Label marking

The following items shall be marked on the production and shipping Label on the reel.

8-5-1 Production Label

(1) Part No.
(2) Description
(3) Quantity
(4) Taping No.

8-5-2 Shipping Label

(1) *Customer's name
(2) *Customer's part No.
(3) Manufacturer's part No.
(4) Manufacturer's name
(5) Manufacturer's country

*Note : Item (1) and (2) are listed by request