

# Datasheet of LTCC Device

**RoHS & Halogen Free & REACH Compliance**

## Laminated Ceramic Filter

**Band Pass Filter for 3300-4200 MHz**

**P/N: FLT21B3342L-2143A**

\*Contents in this sheet are subject to change without prior notice.

## LTCC Band Pass Filter 2012 (BS 0805) Size,

For Working Frequency from 3300 MHz to 4200 MHz

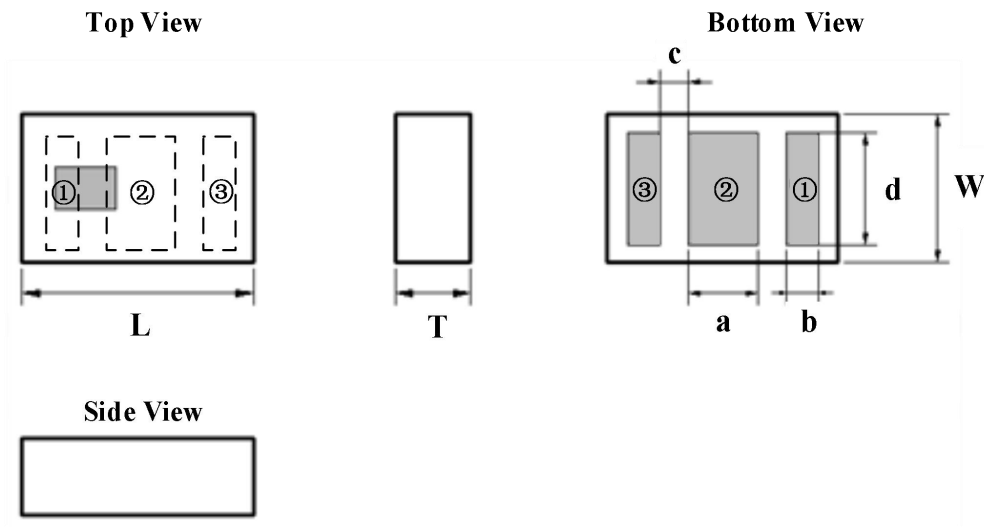
### 1. Features

High Rejection and Low Insertion Loss.

### 2. Applications

Band Pass Filter for working frequency 3300-4200 MHz.

### 3. Shapes & Dimensions



Mark	L	W	T	a	b	c	d
Dimensions (mm)	2.0±0.1	1.25±0.1	0.7 max	0.6±0.1	0.275±0.1	0.25±0.1	0.95±0.1

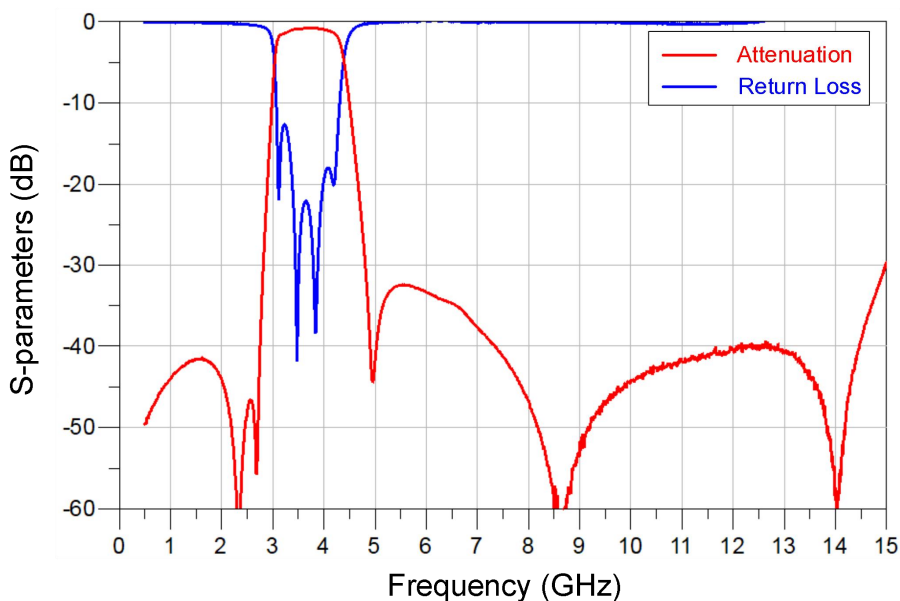
### 4. Terminal Pin Definition

①	Input	②	GND	③	Output
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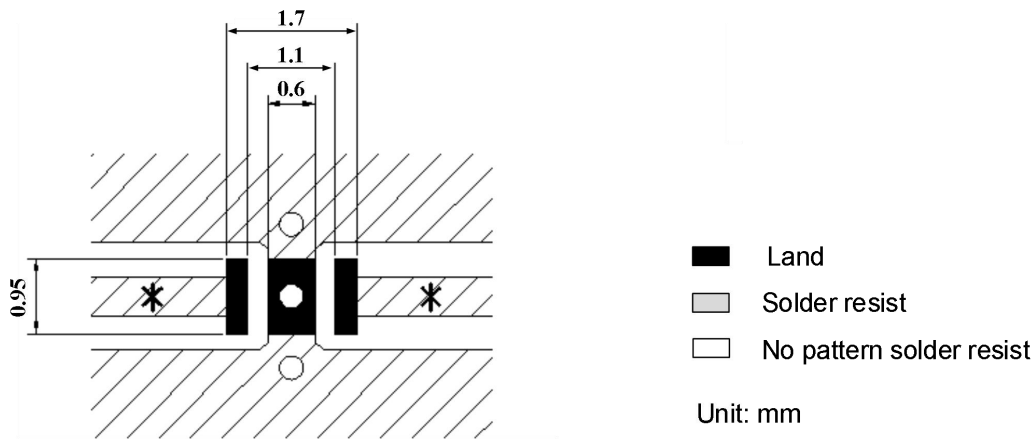
**5. Electrical Characteristics**

Pass Band (MHz)	Insertion Loss (dB)		Return Loss (dB)	Attenuation (dB)
	(@+25°C)	(@-40~+85°C)		
3300-4200	2.0 max. (1.4 typ.)	2.2 max.	10 min.	36 dB min. (42 dB typ.) @ 450~2200 MHz 38 dB min. (47 dB typ.) @ 2300~2483 MHz 33 dB min. (46 dB typ.) @ 2496~2690 MHz
3400-3800	1.5 max. (1.0 typ.)	2.0 max.		25 dB min. (31 dB typ.) @ 5150~5850 MHz 25 dB min. (32 dB typ.) @ 6600~8400 MHz 15 dB min. (40 dB typ.) @ 9900~12600 MHz
Impedance		50 Ω		
Power Capacity		3 W max.		
MSL		LEVEL 1		
<b>Operating and Storage Condition</b> Operation Temperature Range: -40 ~ +85°C Storage Temperature Range: -40 ~ +85°C			<b>Storage Condition before Soldering</b> Storage Temperature Range: +10 ~ +30°C Humidity: 30 to 70% relative humidity	

**6. Typical Electrical Performance at T= 25±5°C**

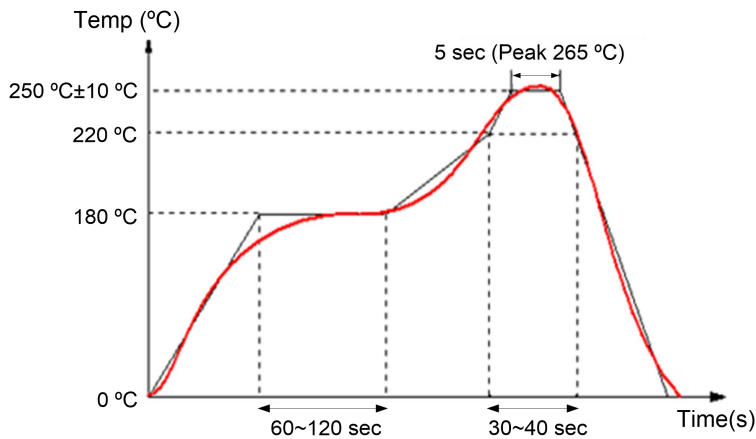


### 7. Soldering Land Pattern



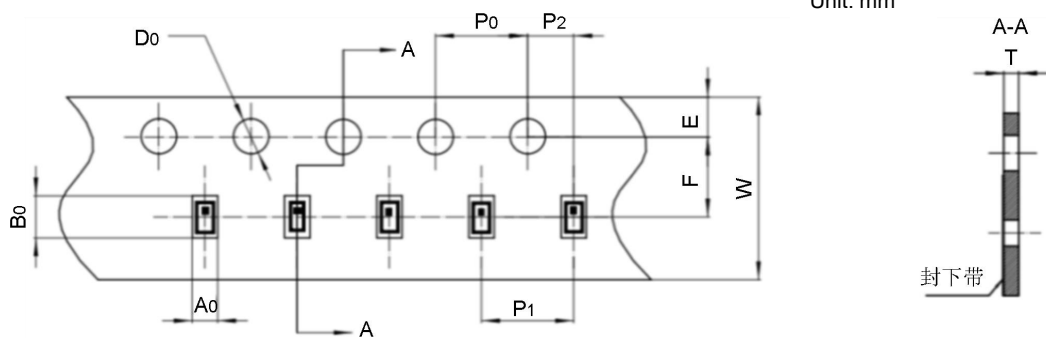
\*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

### 8. Reflow Soldering Standard Condition



### 9. Packaging and Dimensions 2012 (BS 0805)

#### ◆ Plastic Tape



**RF COMPONENTS**

A <sub>0</sub>	B <sub>0</sub>	W	F	E	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	D <sub>0</sub>	T	10 P <sub>0</sub>
1.45 ±0.10	2.20 ±0.10	8.00 ±0.10	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	4.00 ±0.10	2.00 ±0.05	1.50 +0.10/0	0.75 ±0.10	40.00 ±0.20

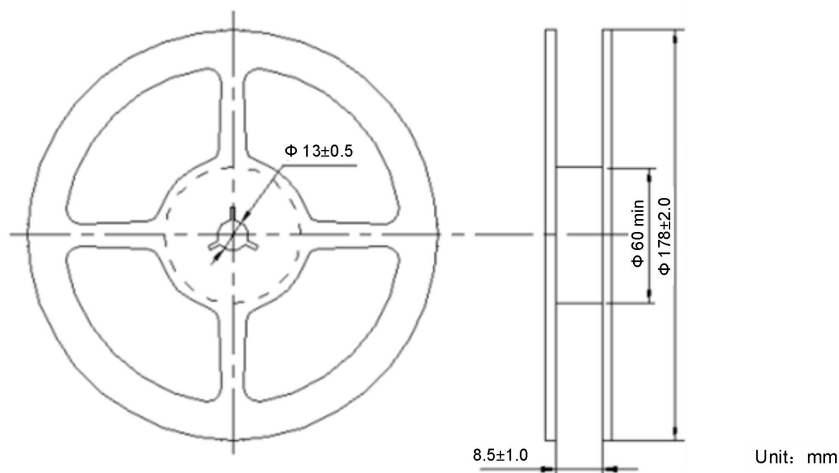
◆ **Ordering Code**

F	LT	21	B	3342	L	2143A
FTR device	LTCC Technology	Size: 2012	BPF	Working Frequency: 3300-4200 MHz	Terminal electrode	Design code

◆ **Remarks for Package**

Reserve a length of  $\geq 150\text{mm}$  for the trailer of the carrier and  $\geq 150\text{mm}$  for the leader of the carrier and further  $\geq 150\text{mm}$  of cover tape at the leading part of the carrier.

◆ **Reel (3000 pcs/Reel)**



◆ **Storage Period**

Product should be used within 12 months from the day of FTR outgoing inspection.

Storage Temperature Range : +10~+30 degree C, Humidity : 30~70% RH

## 10. Reliability Test

Test item	Test condition / Test method	Specification
Solderability IEC 60068-2-58 GB/T2423.28	*Solder bath temperature: 240±5°C *Immersion time: 2±0.5 sec Solder: Sn96.5 Ag3.0 Cu0.5 for lead-free.	At least 95% of a surface of each terminal electrode must be covered by fresh solder.
Leaching (Resistance to dissolution of metallization) JIS C5101	*Solder bath temperature: 260±5°C *Leaching immersion time: 10±1 sec Solder : Sn96.5 Ag3.0 Cu0.5 for lead-free.	Loss of metallization on the edges of each electrode shall not exceed 25%.
Resistance to soldering heat IEC 60068-2-58 GB/T2423.28	*Preheating temperature: 120~150°C, 1 minute. *Solder temperature: 260±5°C *Immersion time: 10±1 sec Solder: Sn96.5 Ag3.0 Cu0.5 for lead-free Measurement to be made after keeping at room temperature for 24±2 hrs.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. Loss of metallization on the edges of each electrode shall not exceed 25%.
Drop Test IEC 60068-2-32 GB/T2423.8 Customer's specification.	*Height: 50 cm *Test Surface: Rigid surface of concrete or steel. *Times: 6 surfaces for each units; 2 times for each side.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Vibration IEC 60068-2-6 GB/T 2423.10	*Frequency: 10Hz~55Hz~10Hz(1min) *Total amplitude: 1.5mm *Test times: 6hrs.(Two hrs each in three mutually perpendicular directions)	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Adhesive Strength of Termination IEC60068-2-21 GB/T 2423.60	*Pressurizing force: LGA terminal series : 3N(1005); 5N(≥1608) DIP terminal series : 3N(1005); 5N(1608); 10N(≥2012) *Test time:10±1 sec	No remarkable damage or removal of the termination.

**RF COMPONENTS**

<p>Bending test IEC 60068-2-21 GB/T 2423.60</p>	<p>The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm/s per second until the deflection becomes 2mm and then pressure shall be maintained for 10±1 sec. Measurement to be made after keeping at room temperature for 24±2 hours.</p>	<p>No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.</p>
<p>Temperature cycle IEC60068-2-14 GB/T 2423.22</p>	<p>30 minutes at -40°C±2°C. 10~15 minutes at room temperature. 30 minutes at +85°C±2°C. 10~15 minutes at room temperature. Total 100 continuous cycles Measurement to be made after keeping at room temperature for 24±2 hrs.</p>	<p>No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.</p>
<p>High temperature IEC 60068-2-2 GB/T2423.2</p>	<p>*Temperature: 85±2°C. *Test duration: 500+24/-0 hours. Measurement to be made after keeping at room temperature for 24±2 hrs.</p>	<p>No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics.</p>
<p>Humidity (steady conditions) IEC60068-2-3 GB/T 2423.3</p>	<p>*Humidity: 85±5%R.H. *Temperature: 85±2°C. *Time: 500+24/-0 hrs. Measurement to be made after keeping at room temperature for 24±2 hrs ※ 200hrs measuring the first data then 300hrs data.</p>	<p>No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.</p>
<p>Low temperature IEC 60068-2-1 GB/T2423.1</p>	<p>*Temperature: -40±2°C. *Test duration: 500+24/-0 hours Measurement to be made after keeping at room temperature for 24±2 hrs.</p>	<p>No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.</p>