

Datasheet of LTCC Device

RoHS & Halogen Free & REACH Compliance

Laminated Ceramic Filter

Band Pass Filter for 5150-5950 MHz

P/N: FLT18B5159L-1188A

LTCC Band Pass Filter 1608 (BS 0603) Size,

5150-5950 MHz Working Frequency

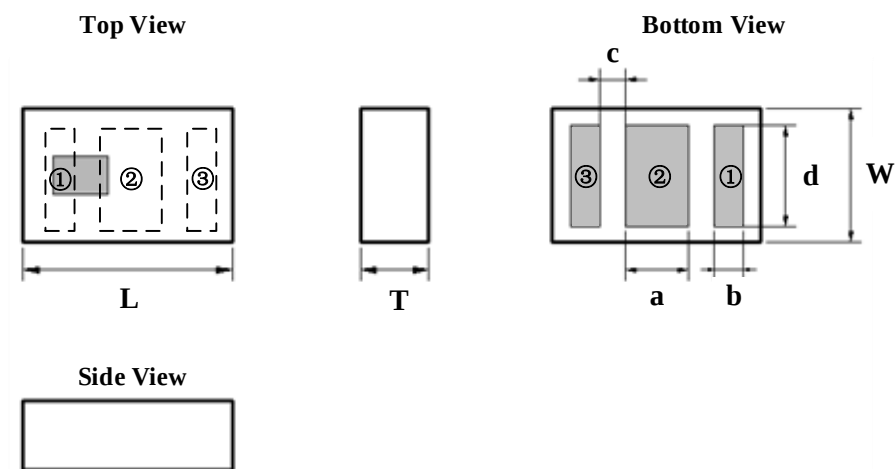
1. Features

High Rejection & Low Insertion Loss.

2. Applications

Band Pass Filter for 5150-5950 MHz working frequency.

3. Shapes & Dimensions



Mark	L	W	T	a	b	c	d
Dimensions (mm)	1.6±0.1	0.8±0.1	0.6±0.1	0.4±0.1	0.25±0.1	0.23±0.1	0.55±0.1

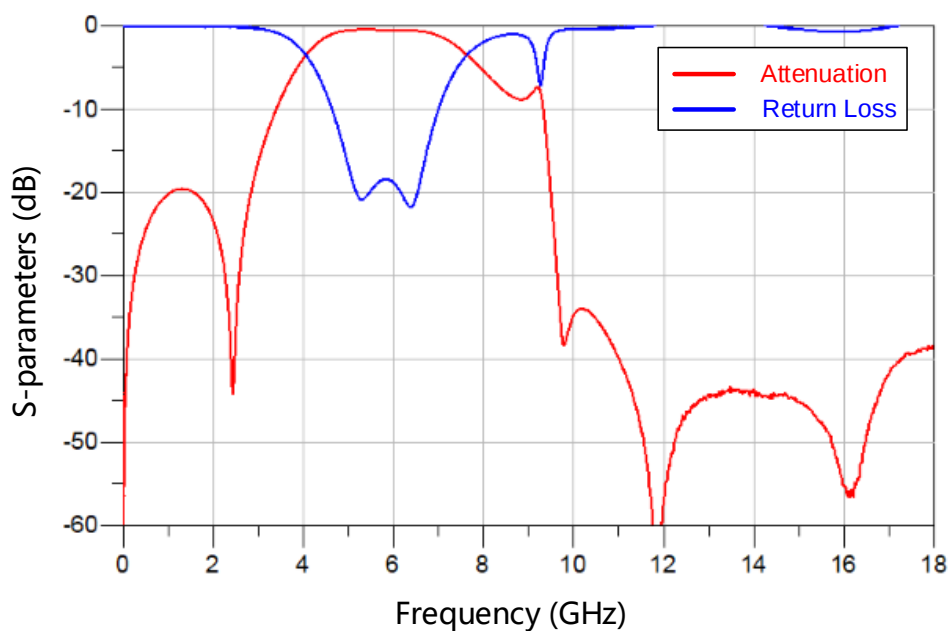
4. Terminal Pin Definition

①	IN	②	GND	③	OUT
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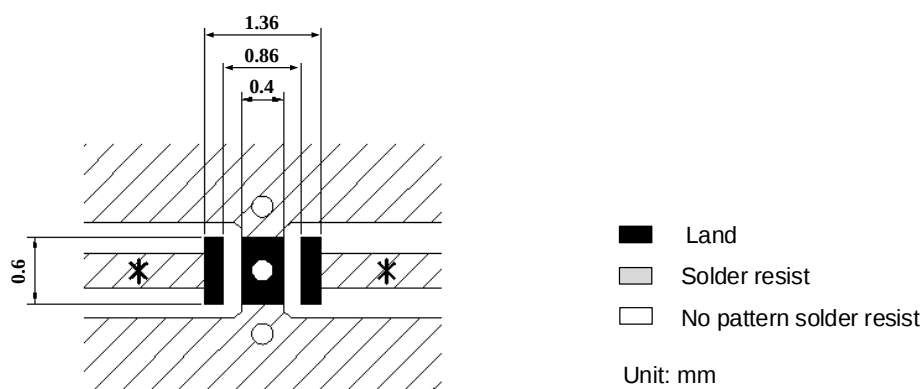
5. Electrical Characteristics

Pass Band (MHz)	Insertion Loss (dB)		Return Loss (dB)	Attenuation (dB)
	(@+25°C)	(@-40~+85°C)		
5150-5950	0.5 typ. 0.6 max.	0.9 max.	13 min. (16 typ.)	34 min. (35 typ.) @ 2400-2500 MHz 32 min. (34 typ.) @ 10300-11900 MHz 28 min. (30 typ.) @ 15450-17850 MHz
Impedance		50 Ω		
Power Capacity		4W max.		
MSL		LEVEL 1		
Operation Temperature Range: -40 ~ +85°C			Storage Condition before Soldering Storage Temperature Range: +10 ~ +30°C Humidity: 30 to 70% relative humidity	

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

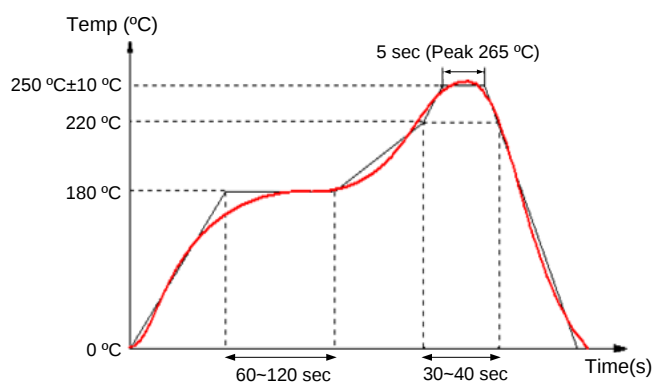


7. Soldering Land Pattern



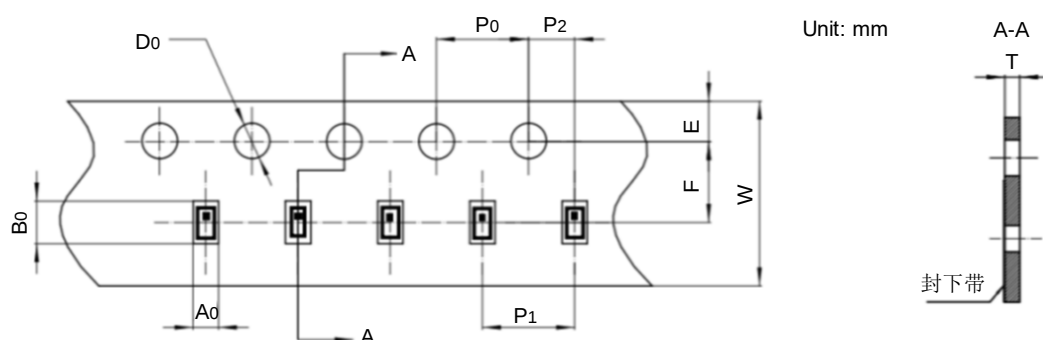
* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

8. Reflow Soldering Standard Condition



9. Packaging and Dimensions 1608 (BS 0603)

◆ Paper Tape



A ₀	B ₀	W	F	E	P ₀	P ₁	P ₂	D ₀	T	10 P ₀
1.05 ±0.05	1.80 ±0.05	8.00 ±0.10	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	4.00 ±0.10	2.00 ±0.05	1.55 ±0.05	0.75 ±0.05	40.00 ±0.10

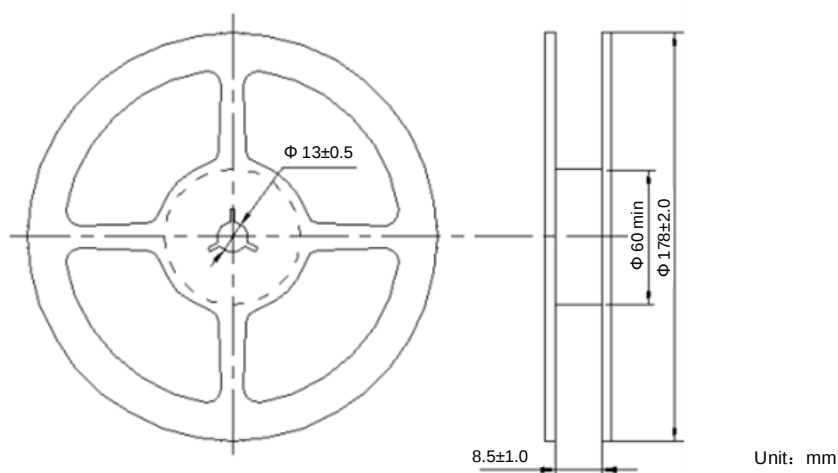
◆ **Ordering Code**

F	LT	18	B	5159	L	1188A
FTR device	LTCC Technology	Size: 1608	BPF	Working Frequency: 5150-5950 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 (5000 pcs/Reel)**



◆ **Storage Period**

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

Storage Temperature Range : $+10 \sim +30$ 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: $240\pm5^{\circ}\text{C}$ *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: $260\pm5^{\circ}\text{C}$ *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: $120\sim150^{\circ}\text{C}$, 1 minute. *Solder temperature: $260\pm5^{\circ}\text{C}$ *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($\geq$ 1608) DIP terminal series : 3N(1005); 5N(1608); 10N($\geq$ 2012) *Test time: 10 ± 1 sec	No remarkable damage or removal of the termination.

Bending test IEC 60068-2-21 GB/T 2423.60	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.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Temperature cycle IEC60068-2-14 GB/T 2423.22	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.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
High temperature IEC 60068-2-2 GB/T2423.2	*Temperature: 85±2°C. *Test duration: 500+24/-0 hours. 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.
Humidity (steady conditions) IEC60068-2-3 GB/T 2423.3	*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.	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.
Low temperature IEC 60068-2-1 GB/T2423.1	*Temperature: -40±2°C. *Test duration: 500+24/-0 hours 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.