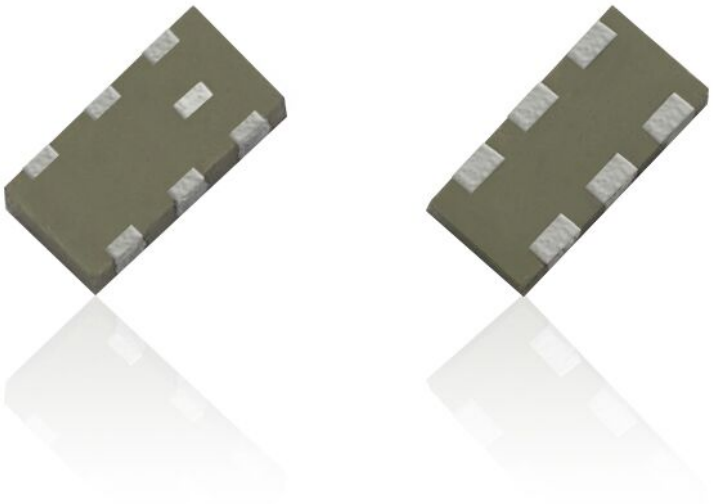
Specification

Part No.	:	**LLP.2450.X.A.30**
Description	:	LTCC Low Pass Filter for 2450MHz Bandwidth 100MHz
Features	:	Cutoff Frequency 2450.0 MHz Low Insertion Loss Low Pass Band Ripple High Attenuation Ultra-Compact, Low Profile SMT Package Dims: 1.6 x 0.8 x 0.6mm



1. Introduction

Taoglas are utilizing their deep understanding of the RF component design and manufacturing process to provide high-quality, small-form-factor, cost-effective and easy to implement RF filters. The Taoglas Filters Division will feature a range of off-the-shelf filters for a variety of applications, including filters for emerging license free bands used for IoT and for GPS L1/L2 and L1/L5 applications. We can also work with customers to develop bespoke filter solutions.

Taoglas LTCC filters are designed to be used in wireless transmitters or receivers. They feature low insertion loss and provide good rejection of unwanted signals at harmonic frequencies for improved system performance. The product is manufactured as a multi-layer monolithic ceramic structure which provides high reliability in a lightweight, low-profile, industrial standard SMT package.

These small part sizes allow for high density PCB layout, provide excellent solderability, and allow for easy visual inspection capability.

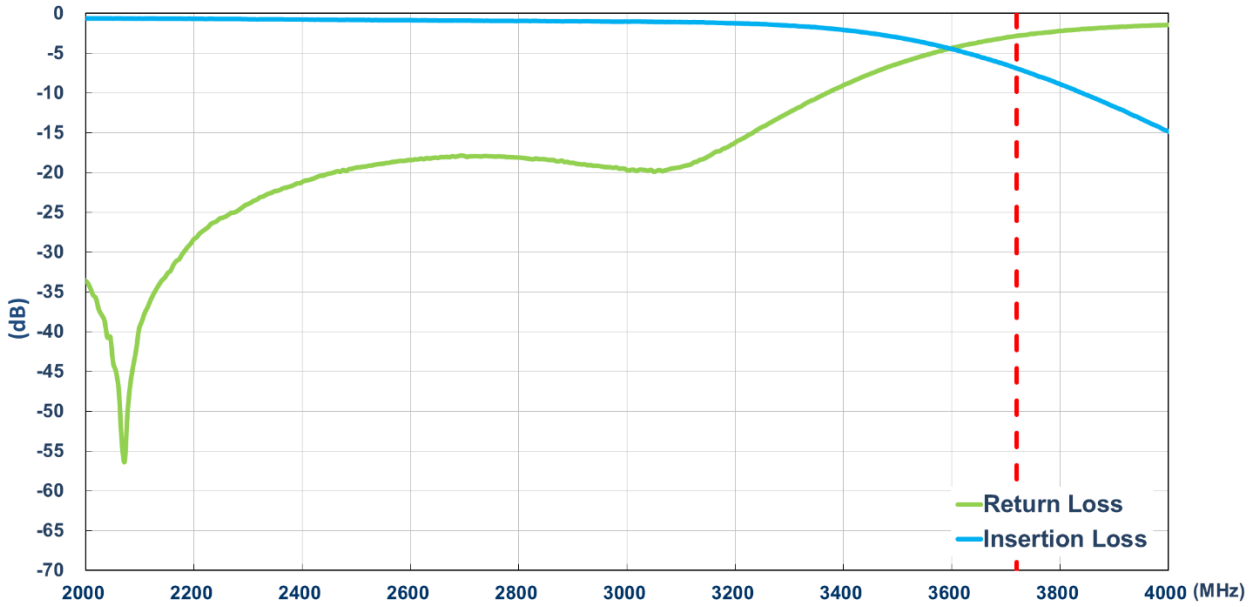
The LLP.2450.X.A.30 is a standard Taoglas product but can be customized for specific customer needs. For more information please contact your regional sales office.

2. Specification

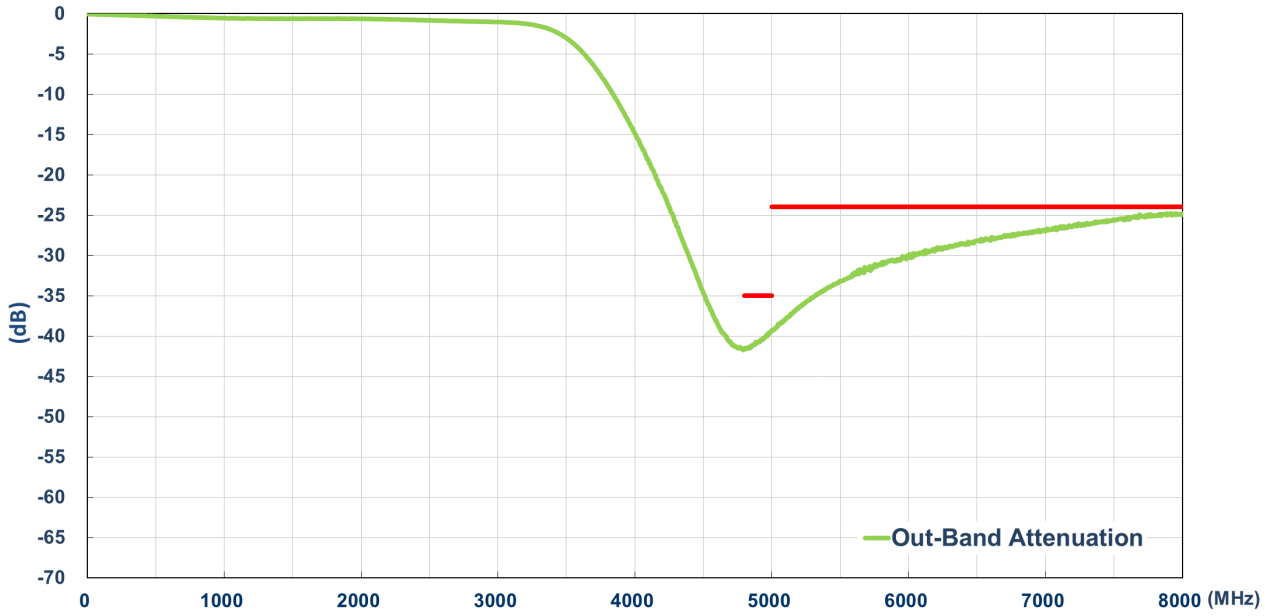
Electrical Characteristics	
Cutoff Frequency	2450 MHz
Insertion Loss	0.5 dB max
Passband Ripple	0.5 dB max
Return Loss	< -10 dB
Attenuation	> 35dB @ 4800 MHz ~ 5000 MHz > 24dB @ 5000 MHz ~ 8000 MHz
In/Out Impedance	50 Ω
Power Dissipation	1.0 W min.
MECHANICAL	
Dimension	1.6 x 0.8 x 0.6mm (L x W x H)
Material	Ceramic
Finish	Ag plated
ENVIRONMENTAL	
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Moisture Sensitivity Level (MSL)	3 (168 Hours)

3. Characteristics Curve

3.1. Pass Band Return & Insertion Loss

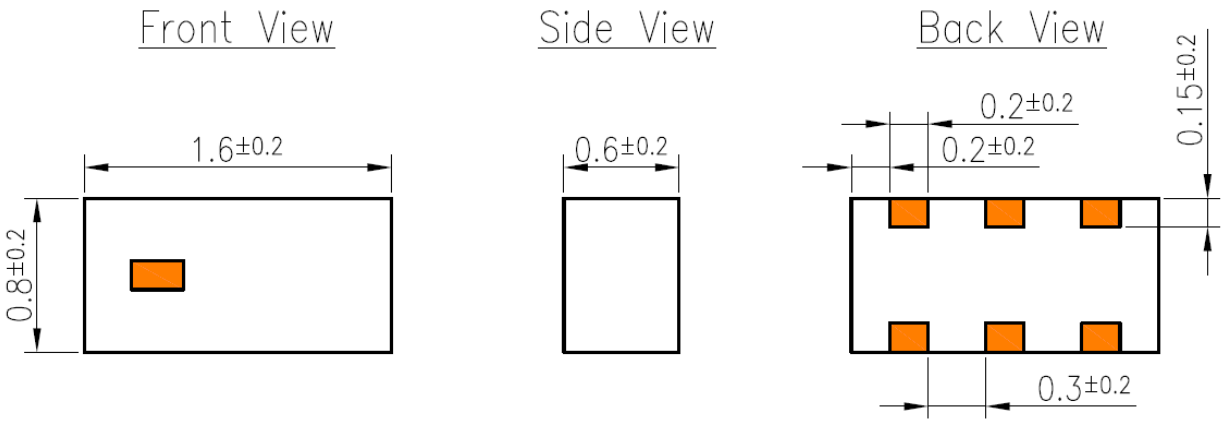


3.2. Out-Of-Band Attenuation



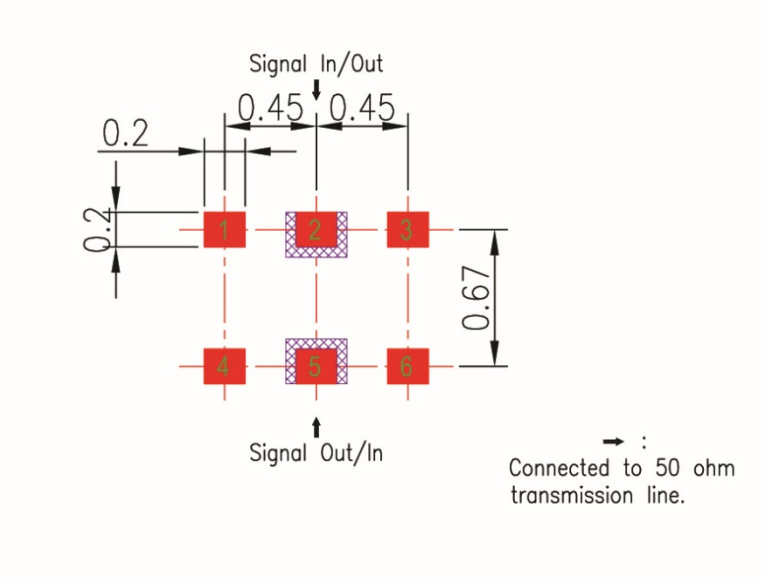
4. Mechanical Drawing (Unit: mm)

4.1. Antenna Drawing

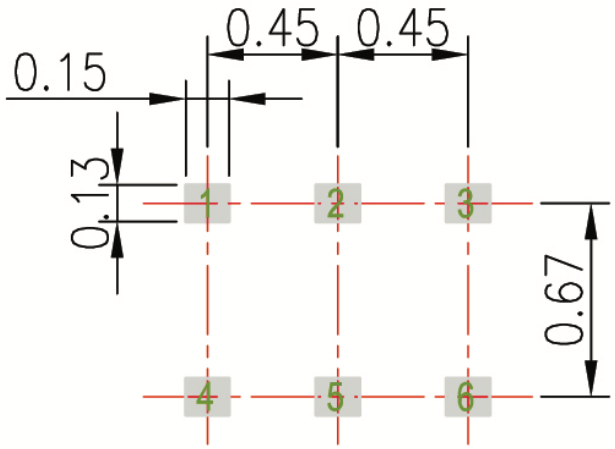


4.2. Recommended PCB Layout

4.2.1. Top Copper

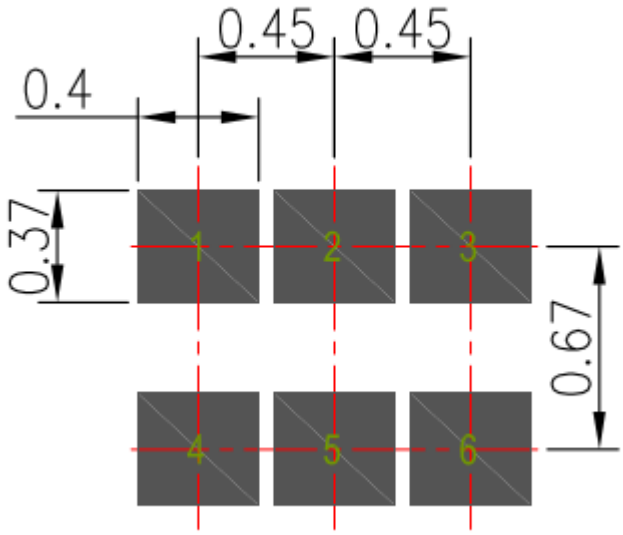


4.2.2. Top Solder Paste

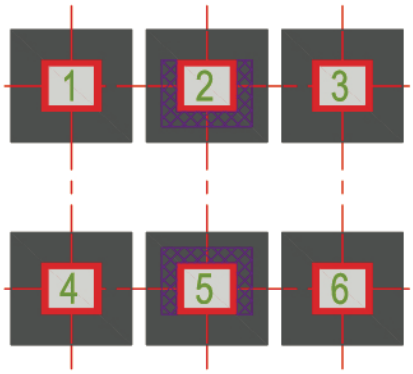


NOTE:
1. Ag Plated area
2. Solder Mask area
3. Copper area
4. Paste area
5. Copper Keepout Area
6. Any vias in pads should be either filled or tented to prevent solder from wicking away from the pad during reflow.
7. The dimension tolerances should follow standard PCB manufacturing guidelines

4.2.3. Top Solder Mask

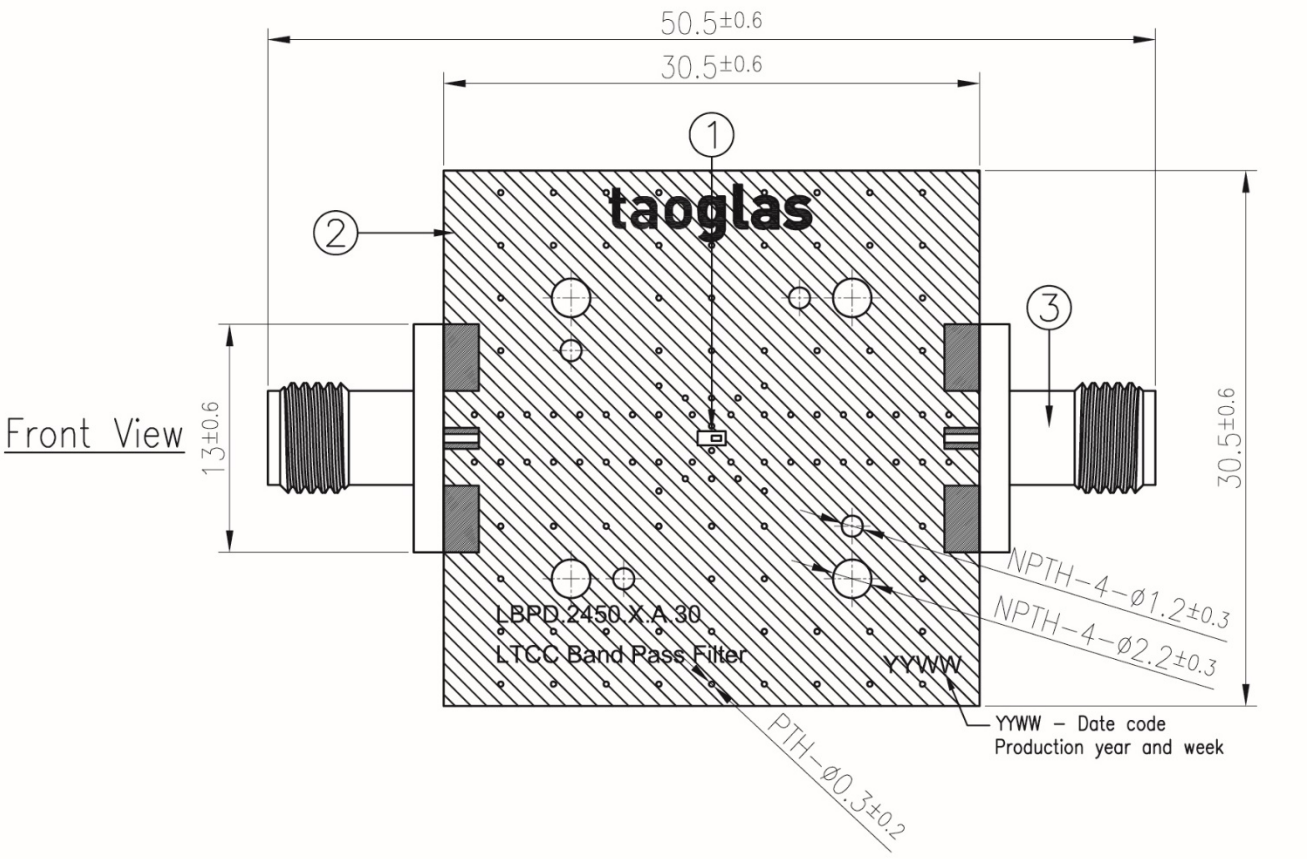


4.2.4. Composite Diagram



NOTE:
1. Ag Plated area
2. Solder Mask area
3. Copper area
4. Paste area
5. Copper Keepout Area
6. Any vias in pads should be either filled or tented to prevent solder from wicking away from the pad during reflow.
7. The dimension tolerances should follow standard PCB manufacturing guidelines

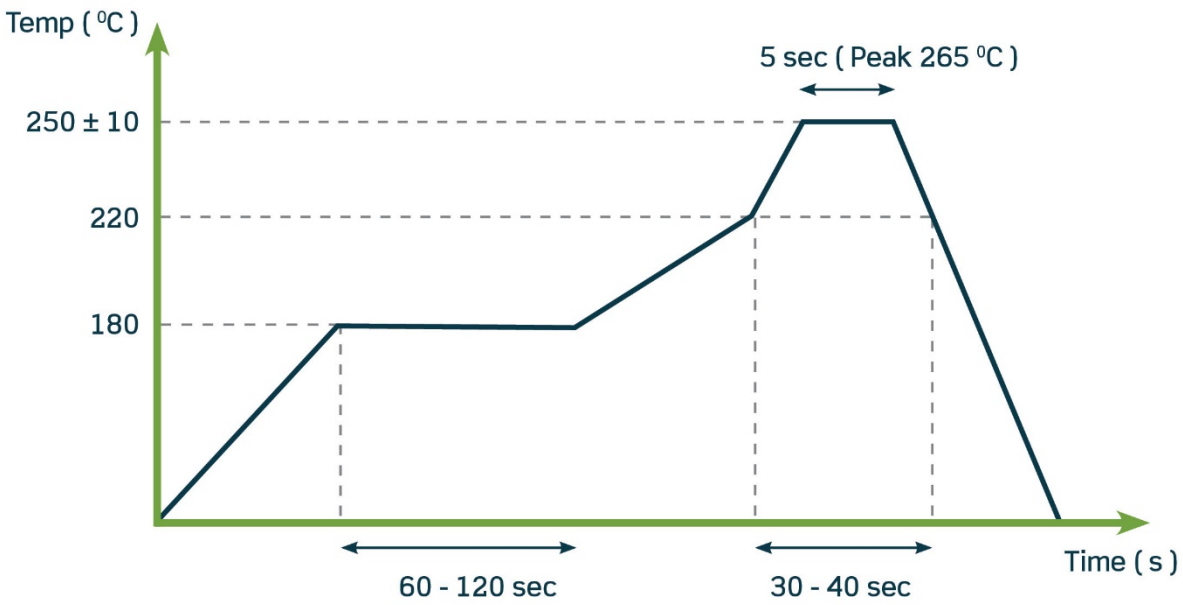
4.3. Evaluation Board



	Name	Material	Finish	QTY
1	Filter (1.6x0.8x0.6mm)	Ceramic	Clear	1
2	PCB	Composite 1.0t	Black	1
3	SMA(F) ST	Brass	Au Plated	2

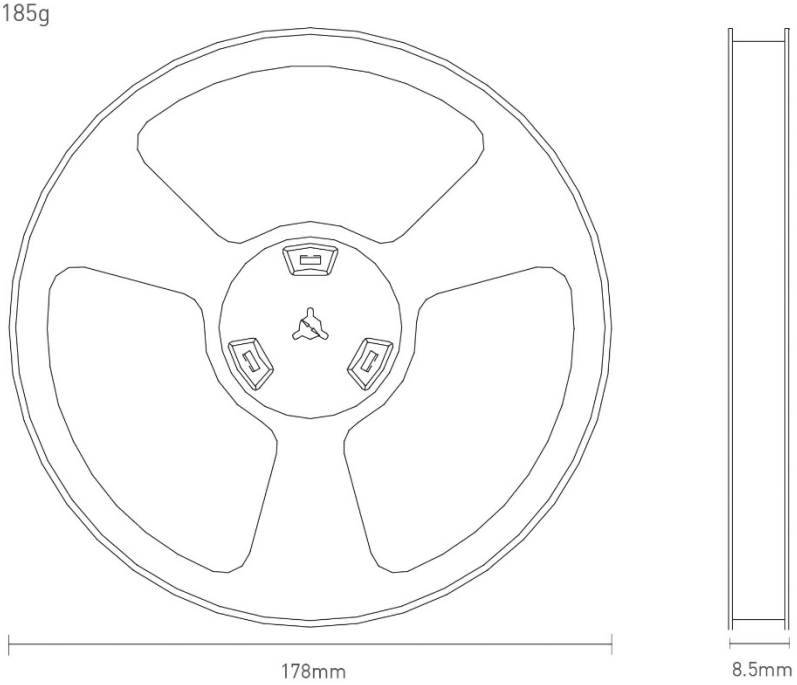
5. Recommended Reflow Soldering Profile

Phase	Profile Features	Maximum
Preheat	Temperature Min Temperature Max Duration	150 °C 180 °C 60-120 sec
Ramp-Up	Avg. Ramp up rate	3 °C/sec (max)
Reflow	Temperature Duration	220 °C 30-40 sec
Peak	Temperature Duration	265 °C 5 sec Max
Ramp Down	Avg. Ramp down rate	3 °C/sec (max)

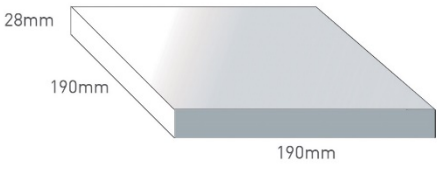


6. Packaging

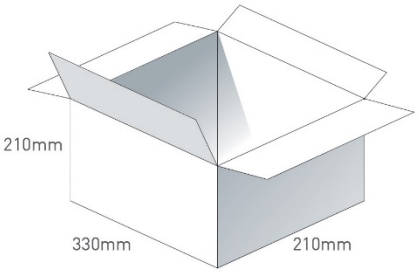
6000 pc LLP.2450.X.A.30
1 reel per small inner box
Dimensions - 178*8.5mm
Weight - 185g



12000 pc LLP.2450.X.A.30
2 reel in small inner box
Dimensions - 190*190*28
Weight - 0.42Kg



10 inner boxes / 120000 pcs in one carton
Carton Dimensions - 330*210*210mm
Weight - 4.5 Kg



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