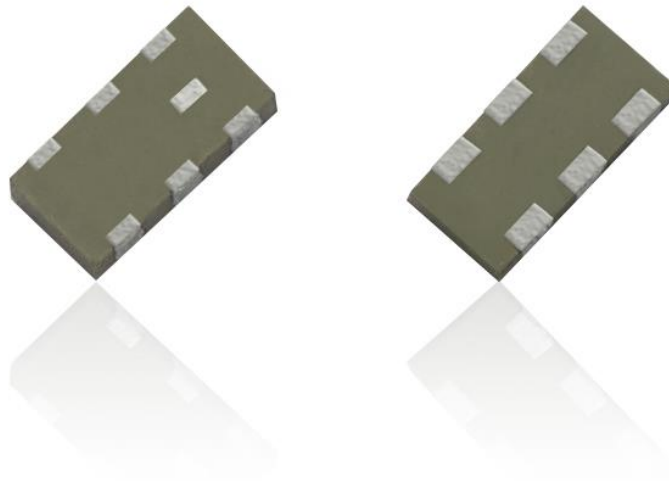


Specification

- Part No. : **LLP.2500.X.A.30**
- Description : LTCC Low Pass Filter for 2500MHz
Bandwidth 100MHz
- Features : Cutoff Frequency 2450 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.

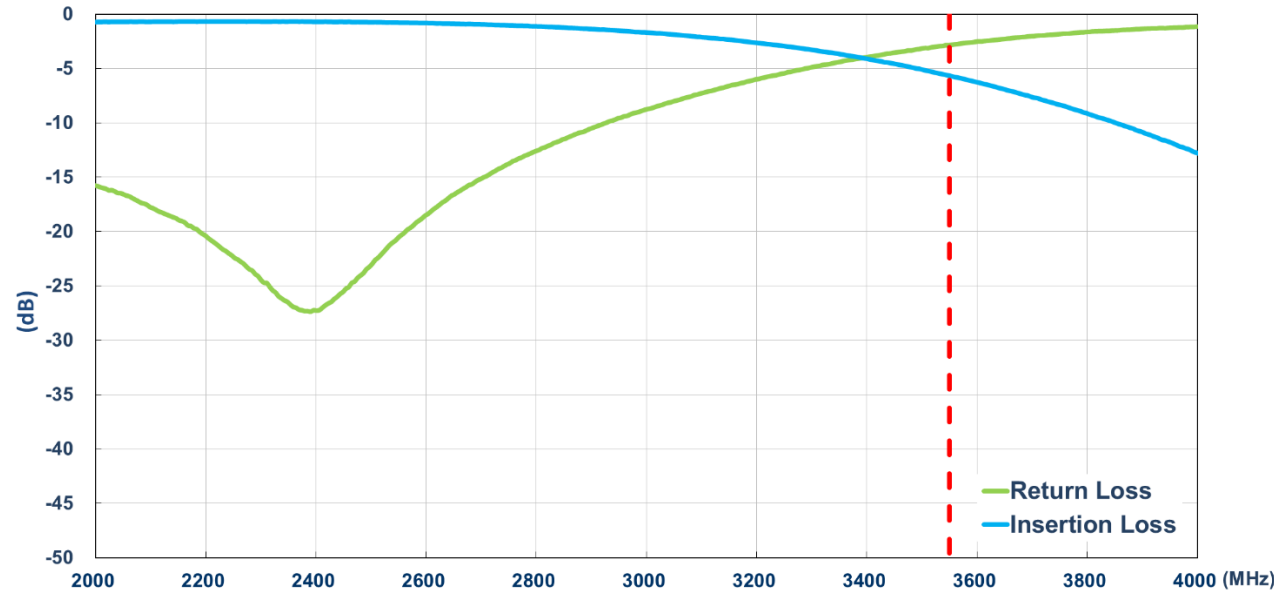
The LBP.2500.X.A.30 is a standard Taoglas product but can be customized for specific customer needs. For more information please contact your regional sales office.

2. Specification

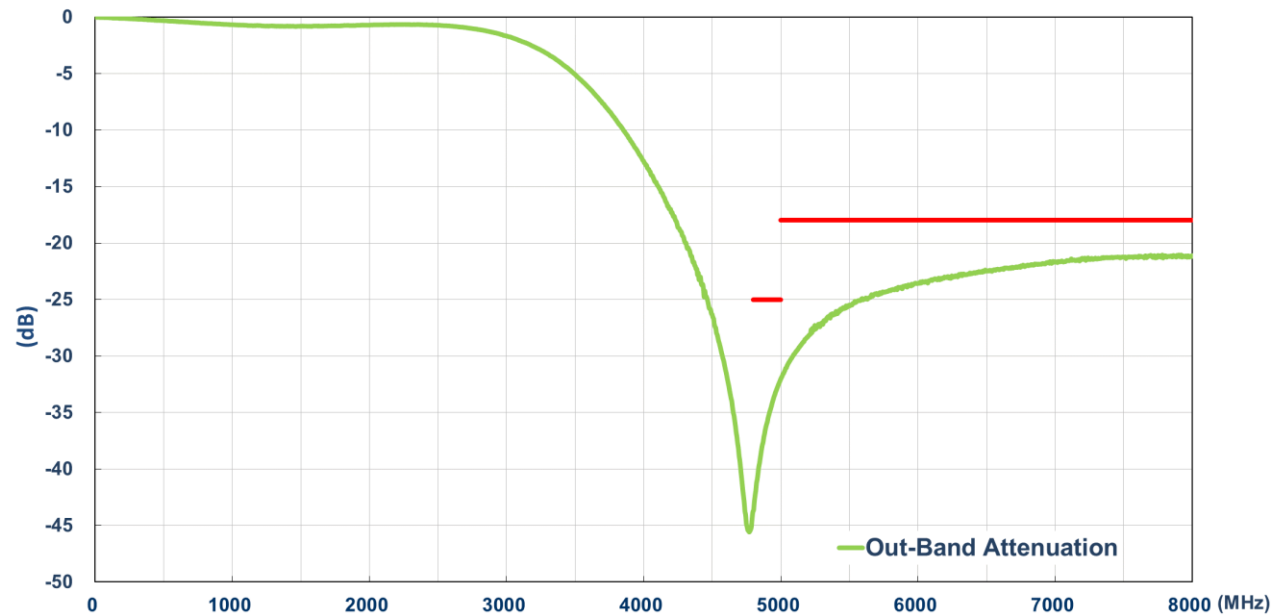
| ELECTRICAL | |
|----------------------------------|--|
| Cutoff Frequency | 2450 MHz |
| Insertion Loss | 0.42 dB max |
| Passband Ripple | 0.5 dB max |
| Return Loss | < -14 dB |
| Attenuation | > 25dB @ 4800 MHz ~ 5000 MHz > 18dB @ 5000 MHz ~ 8000 MHz |
| In/Out Impedance | 50 Ω |
| Power Dissipation | 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

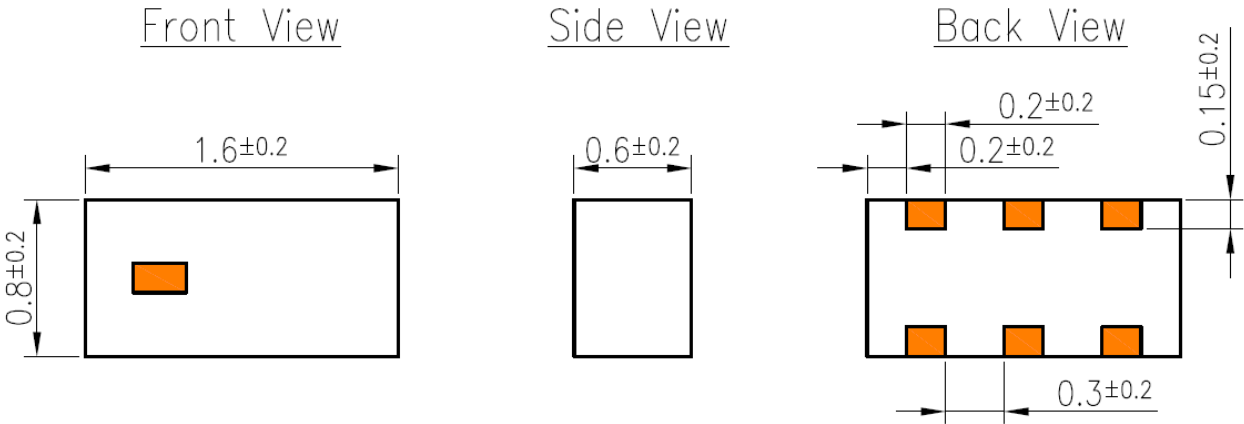


3.2. Out-Of-Band Attenuation



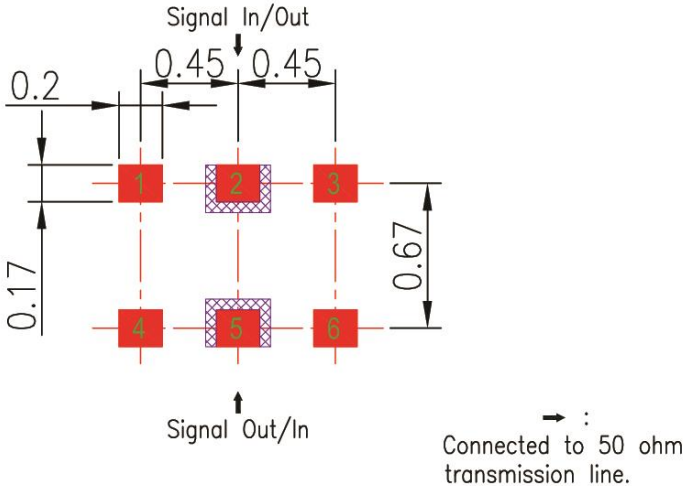
4. Mechanical Drawings (Unit: mm)

4.1. Antenna Drawings

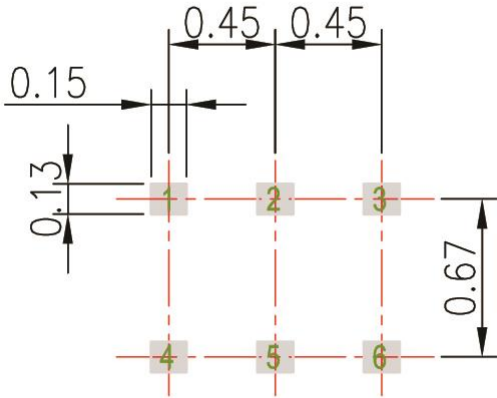


4.2. Recommended PCB Layout






4.2.1. Top Copper



4.2.2. Top Solder Paste

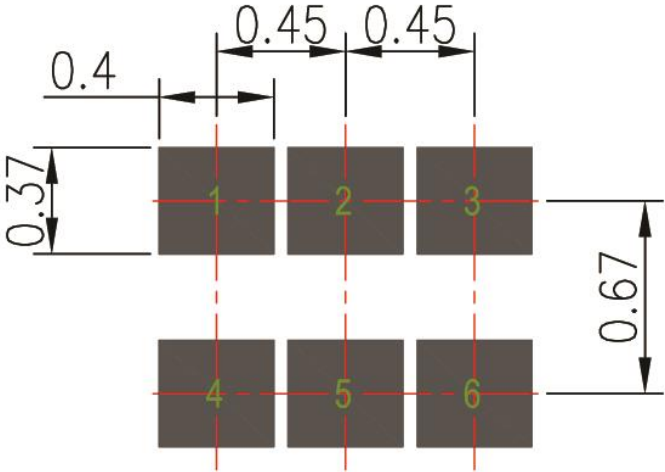


NOTE:

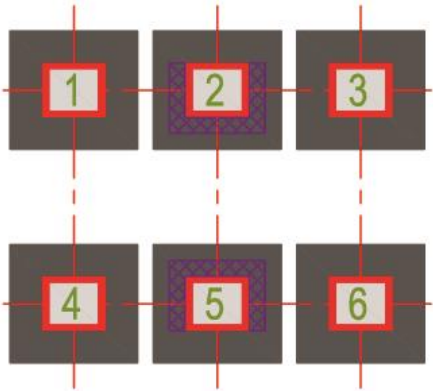
- 1. Ag Plated area 
- 2. Solder Mask area 
- 3. Copper area 
- 4. Paste area 
- 5. Copper Keepout Area 

- 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

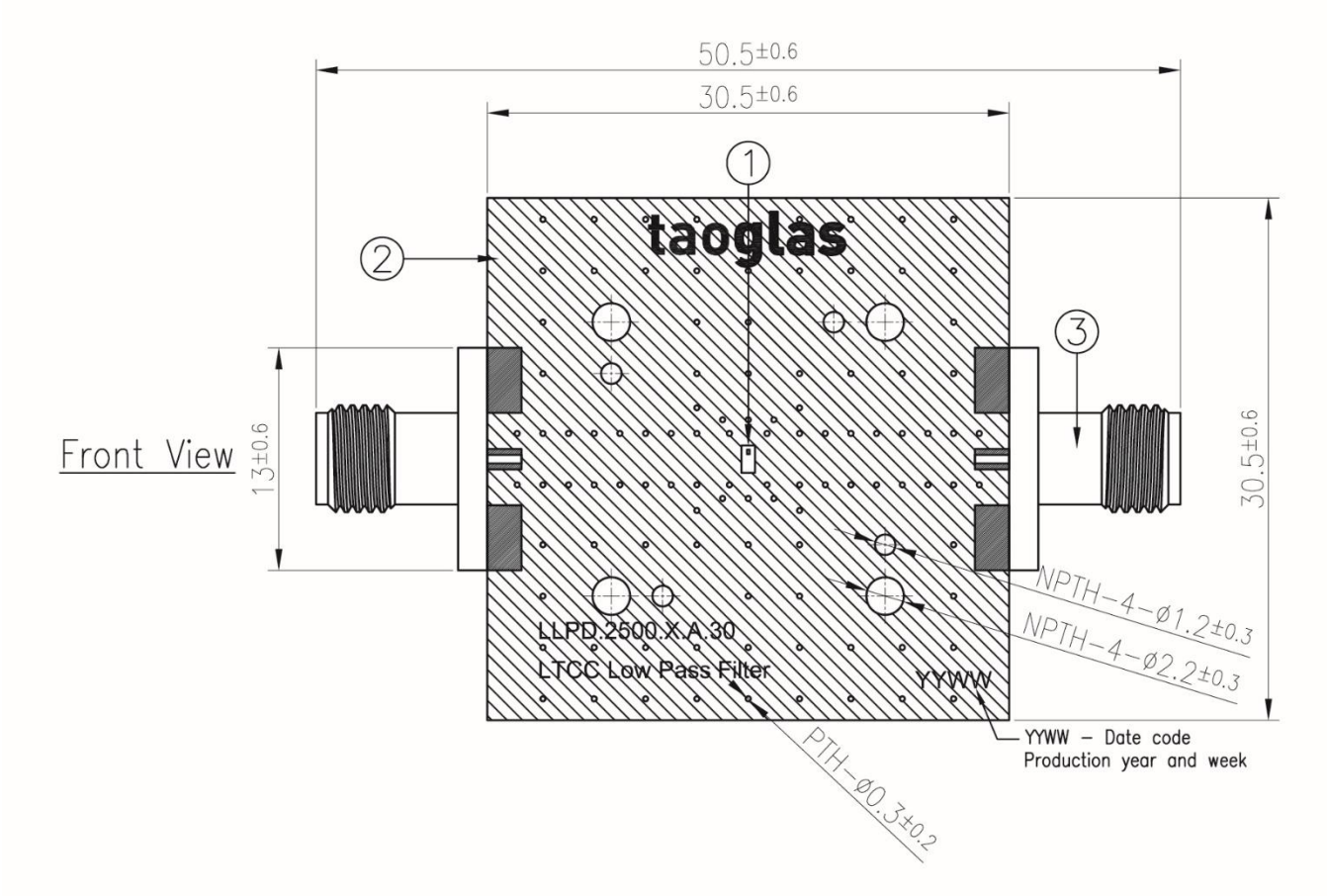


NOTE:

- 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

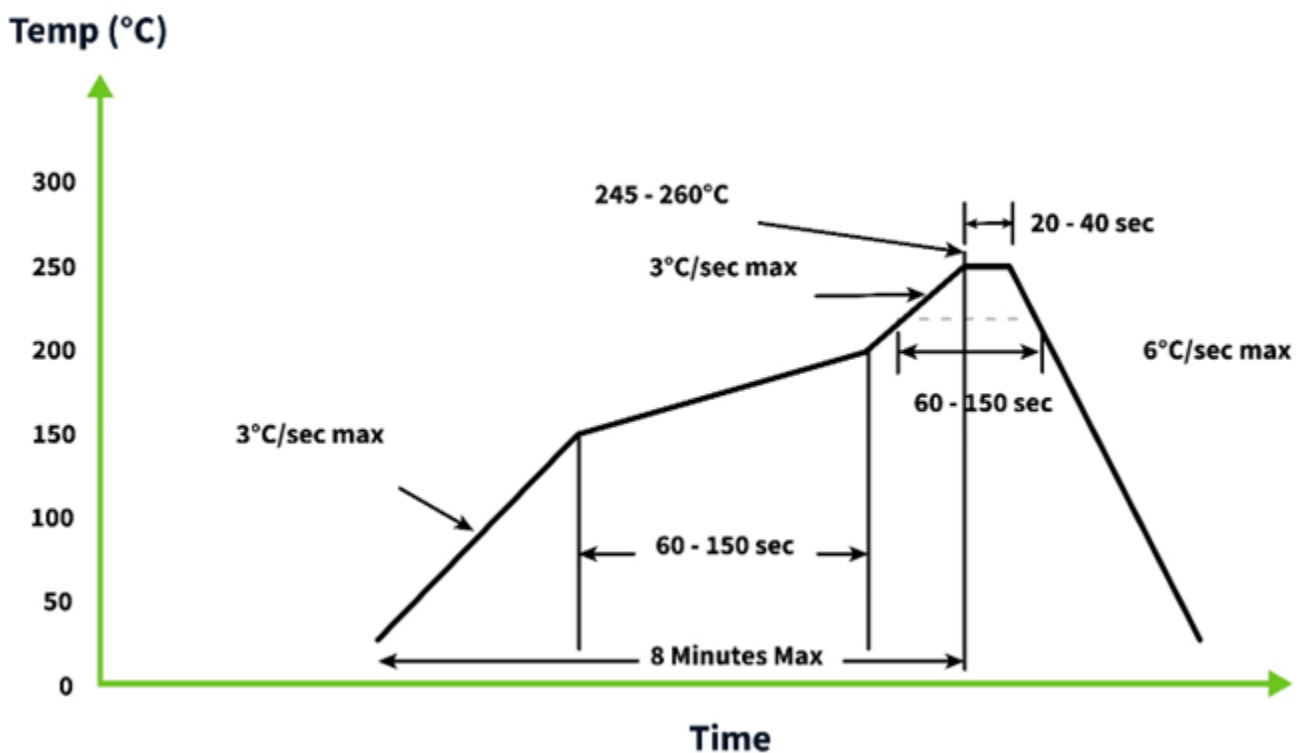
4.3. Evaluation Board



| | 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

The LLP.2500.X.A.30 can be assembled by following the recommended soldering temperatures are as follows:



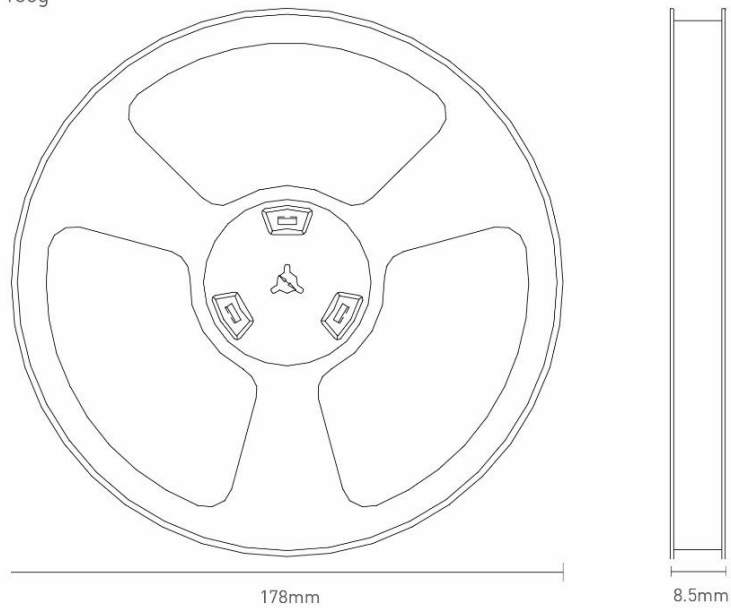
*Temperatures listed within a tolerance of +/- 10° C

Smaller components are typically mounted on the first pass, however, we do advise mounting the LLP.2500.X.A.30 when placing larger components on the board during subsequent reflows.

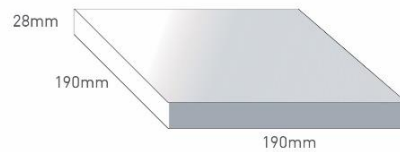
Note: Soldering flux classified ROL0 under IPC J-STD-004 is recommended.

6. Packaging

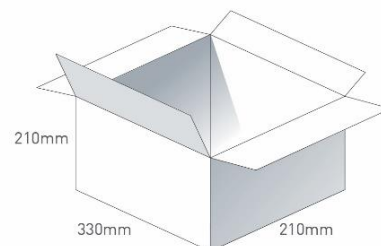
6000 pc LLP.2450.X.A.30
 1 reel per small inner box
 Dimensions - 178*8.5mm
 Weight - 185g



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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