SPECIFICATION

Part No.	:	**DBP.433.T.A.30**
Description	:	Dielectric Band Pass Filter for 433MHz Bandwidth 2MHz
Features	:	Center Frequency 433.92MHz Supports ISM 433.05MHz to 434.79MHz use. Low Insertion Loss Low Pass-Band Ripple High Ultimate Attenuation Dims: 10*7.5*3.7mm

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 dielectric filters are designed to be used in wireless transmitters or receivers. These filters are designed to protect the LNA from noisy out of band emissions originated from nearby transmitters that can overdrive, or even damage your LNA. Overdriving the LNA results in non-linear distortion which negatively impacts the sensitivity of your receiver.

By selecting the proper Taoglas filter you can eliminate unnecessary out of band noise while maintaining minimal in-band insertion loss. The filter is manufactured as a single ceramic block [monoblock] which provides high reliability, low insertion loss and high attenuation in a simple compact SMD package.

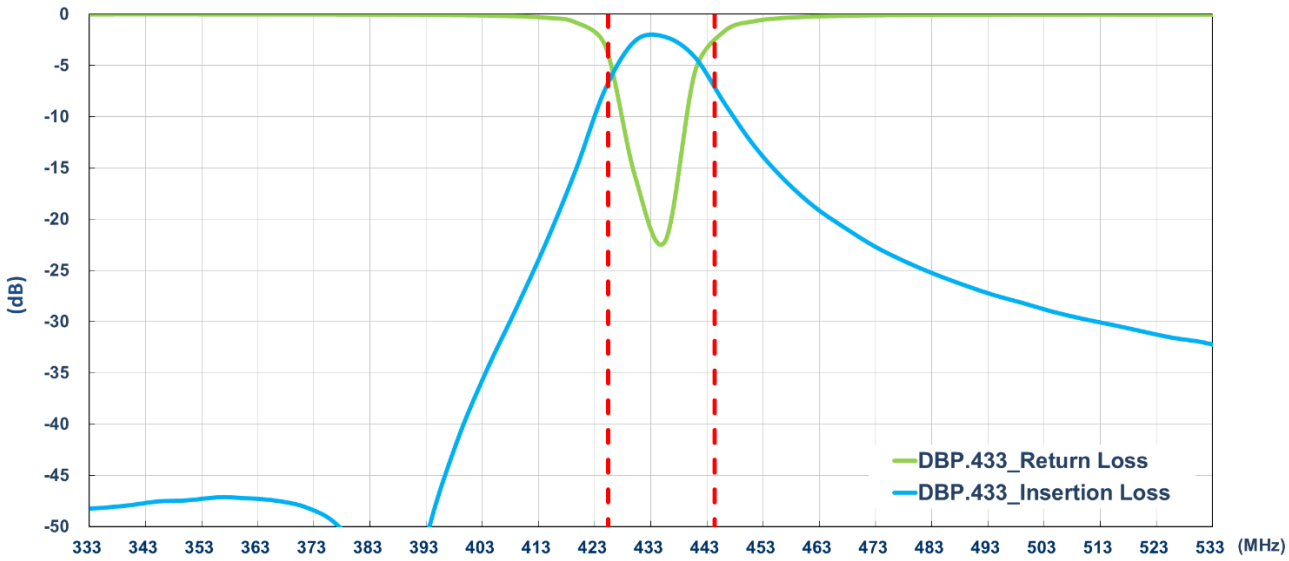
The DBP.433.T.A.30 is a standard Taoglas product but can be customized for specific customer needs. For more information please contact your regional sales office.

2. Specification

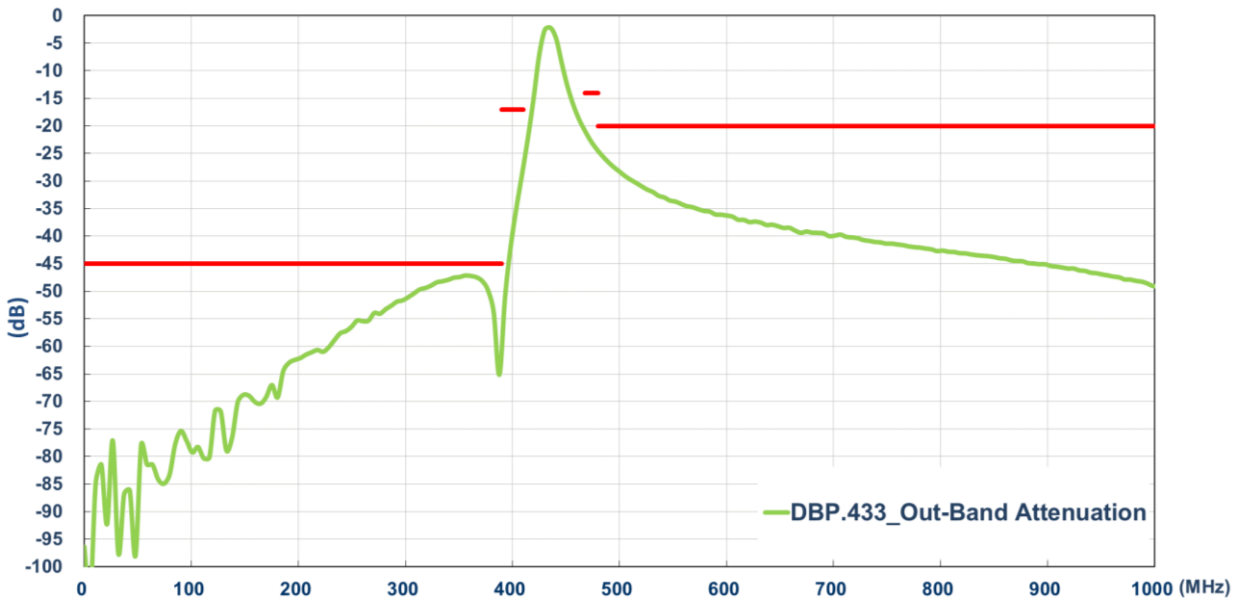
ELECTRICAL	
Centre Frequency (Fo)	433.92MHz
3dB Bandwidth	10MHz
Insertion Loss	3.0 dB max
Passband Ripple	0.5 dB max
Return Loss	< -10 dB
Attenuation	> 45.0 dB @ 0 ~ 390 MHz > 17.0 dB @ 390 MHz ~ 410 MHz > 14.0 dB @ 468 MHz ~ 480 MHz > 20.0 dB @ 480 MHz ~1 GHz
In/Out Impedance	50 Ω
Power Dissipation	1.0 W min.
MECHANICAL	
Dimension	10 x 7.5 x 3.7 (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

3. Characteristics Curve

3.1. Pass Band Return & Insertion Loss

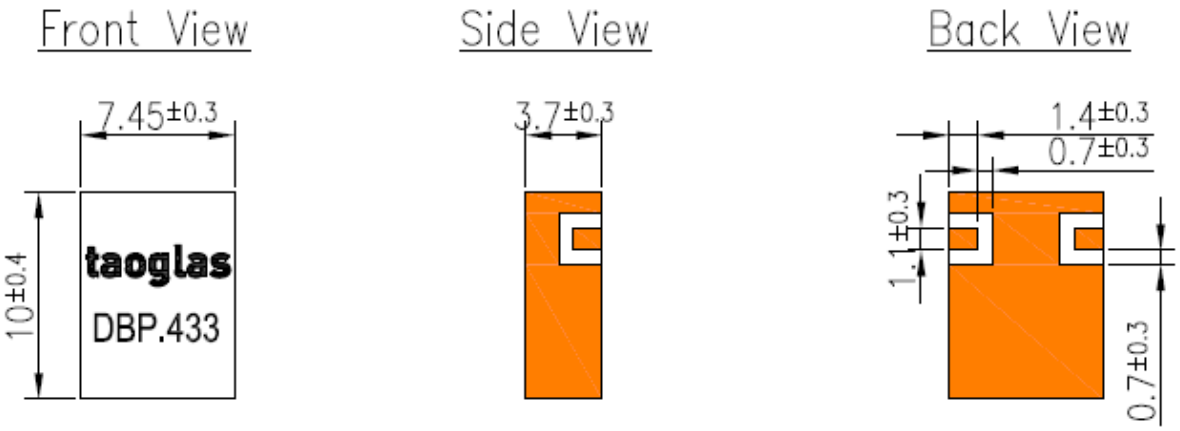


3.2. Out-Of-Band Attenuation



4. Mechanical Drawings (Unit: mm)

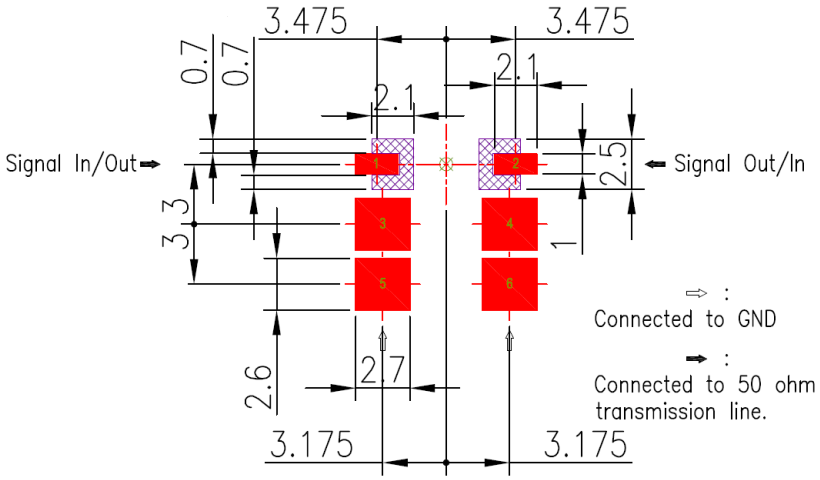
4.1. Antenna Drawing



4.2. Recommended PCB Layout

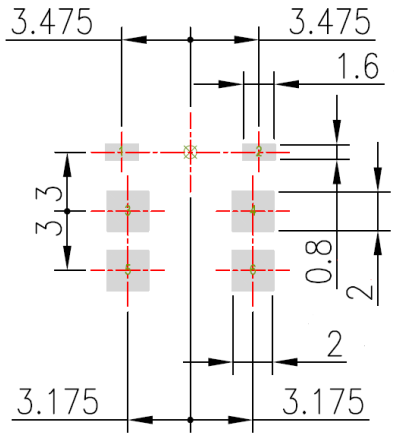
4.2.1. Top Copper

Pads 1 and 2 should be connected to a 50 ohm transmission line.
Pads 3, 4, 5 and 6 are connected to GND.
Pads 1 and 2 are the same size. Pads 3, 4, 5 and 6 are the same size.



4.2.2. Top Solder Paste

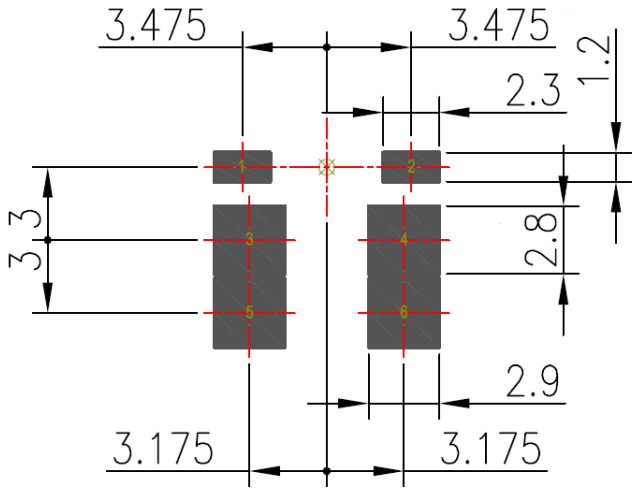
Pads 1 and 2 are the same size. Pads 3, 4, 5 and 6 are the same size.



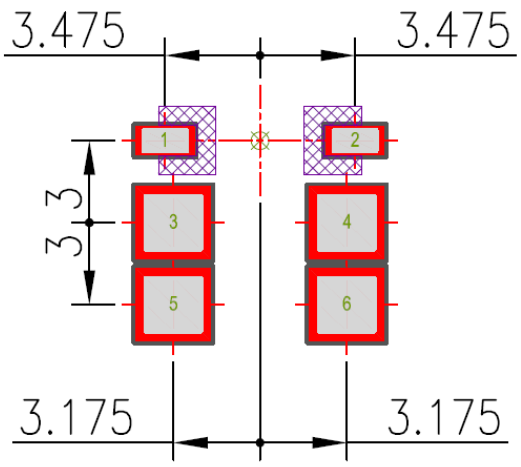
NOTE:
1. Ag Plated area
2. Solder Mask area
3. Copper area
4. Paste area
5. Copper Keepout Area
6. Any vias in pads should be either filled or tented to prevent solder from wicking away from the pad during reflow.
7. The dimension tolerances should follow standard PCB manufacturing guidelines

4.2.3. Top Solder Mask

Pads 1 and 2 are the same size. Pads 3, 4, 5 and 6 are the same size.
This drawing is a negative of solder mask. Black regions are anti-mask.



4.2.4. Composite Diagram



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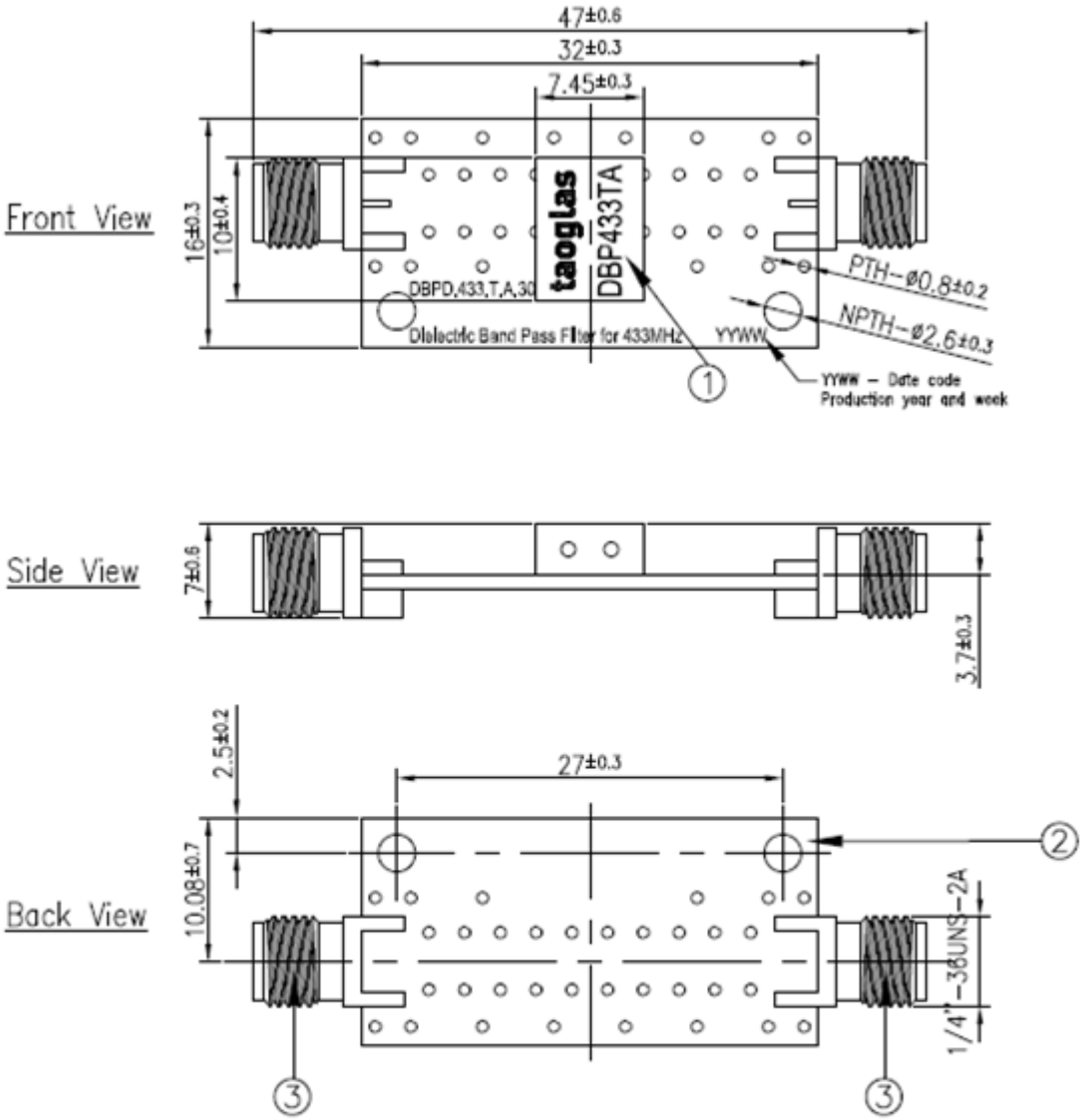
6. Any vias in pads should be either filled or tented to prevent solder from wicking away from the pad during reflow.
7. The dimension tolerances should follow standard PCB manufacturing guidelines

4.3. Evaluation Board

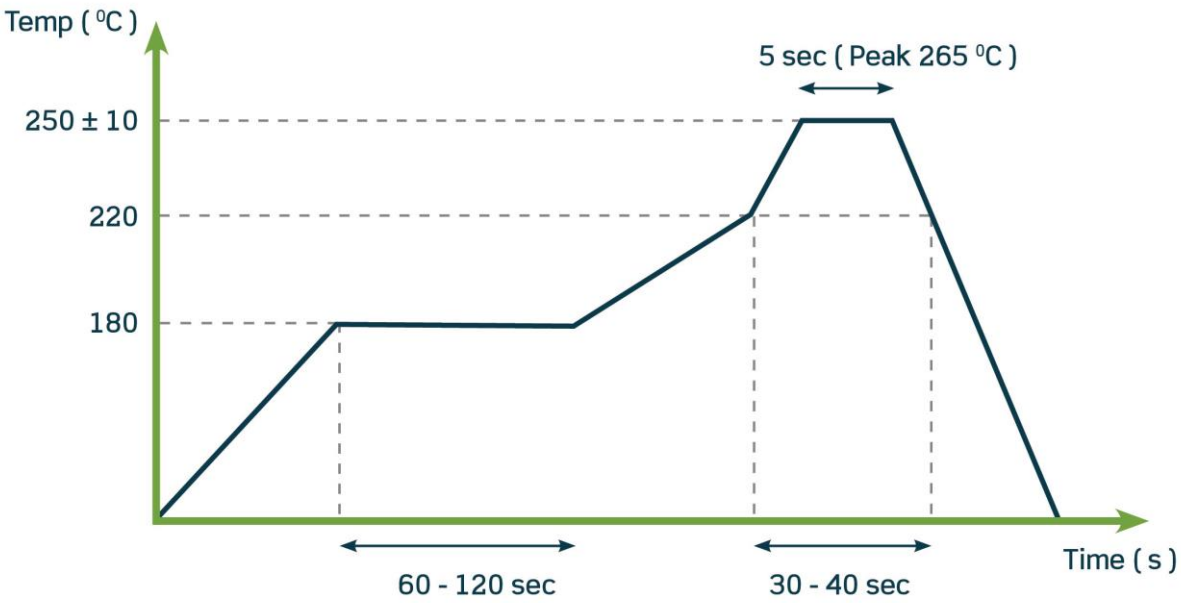


NOTE:
1.All material must be RoHS compliant.

	Name	Material	Finish	QTY
1	Filter	Ceramic	Clear	1
2	PCB	Composite 1.0t	Black	1
3	SMA(F) ST	Brass	Au Plated	2

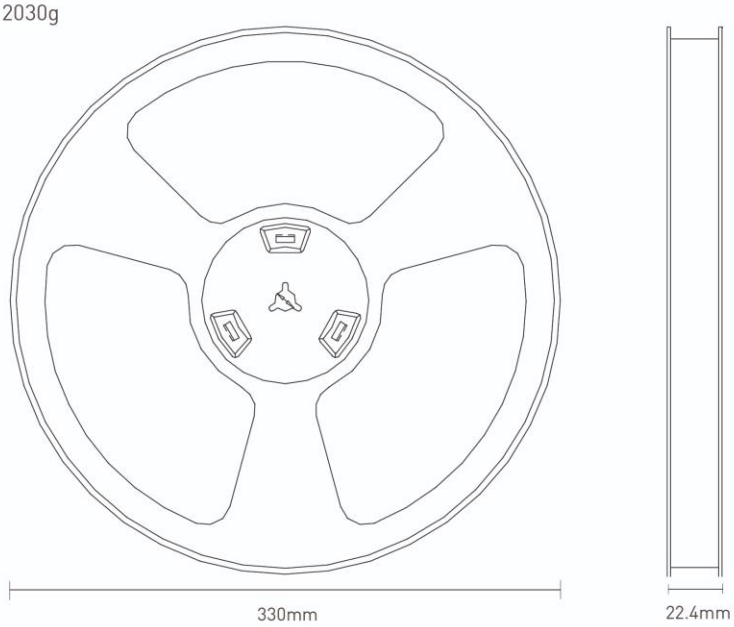
5. Recommended Reflow Soldering Profile

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)

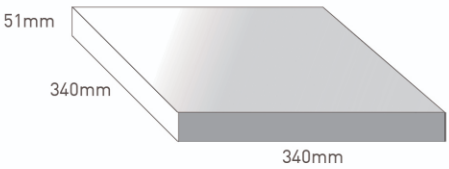


6. Recommended Reflow Soldering Profile

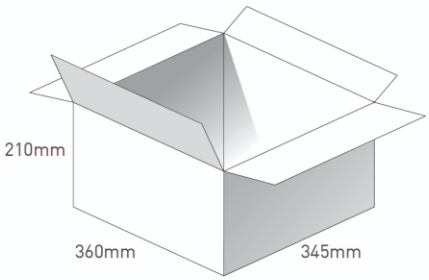
1250 pc DBP.433.T.A.30
1 reel per small inner box
Dimensions - 330*22.4mm
Weight - 2030g



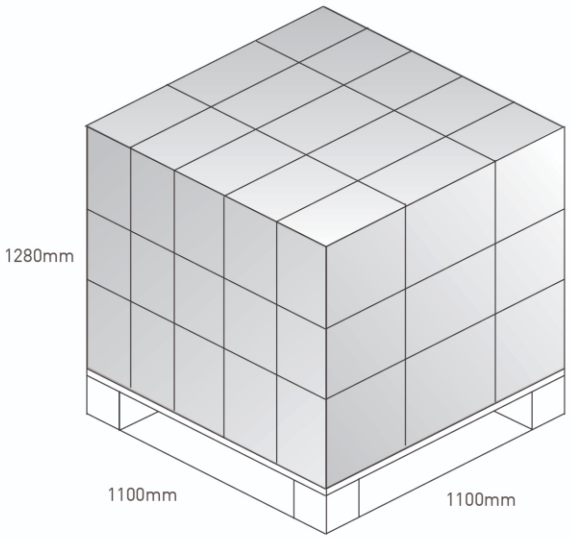
2500 pc DBP.433.T.A.30
2 reel in small inner box
Dimensions - 340*340*51
Weight - 4.17Kg



4 inner boxes / 10000 pcs in one carton
Carton Dimensions - 210*345*360mm
Weight -17.2Kg



Pallet Dimensions 1100*1100*1280mm
24 Cartons per Pallet
6 Cartons per layer
4 Layers



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