TAOGLAS

Datasheet

DBP.1575.W.A.30 Dielectric Band Pass Filter

Part No:
DBP.1575.W.A.30

Description:

1575MHz 5.8*5.1*2.8mm, Bandwidth 10MHz

Features:

Center Frequency 1575.42MHz
Support GPS L1
Low Insertion Loss
Low Pass-Band Ripple
High Ultimate Attenuation
Dims: 5.8 x 5.1 x 2.8 mm

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.

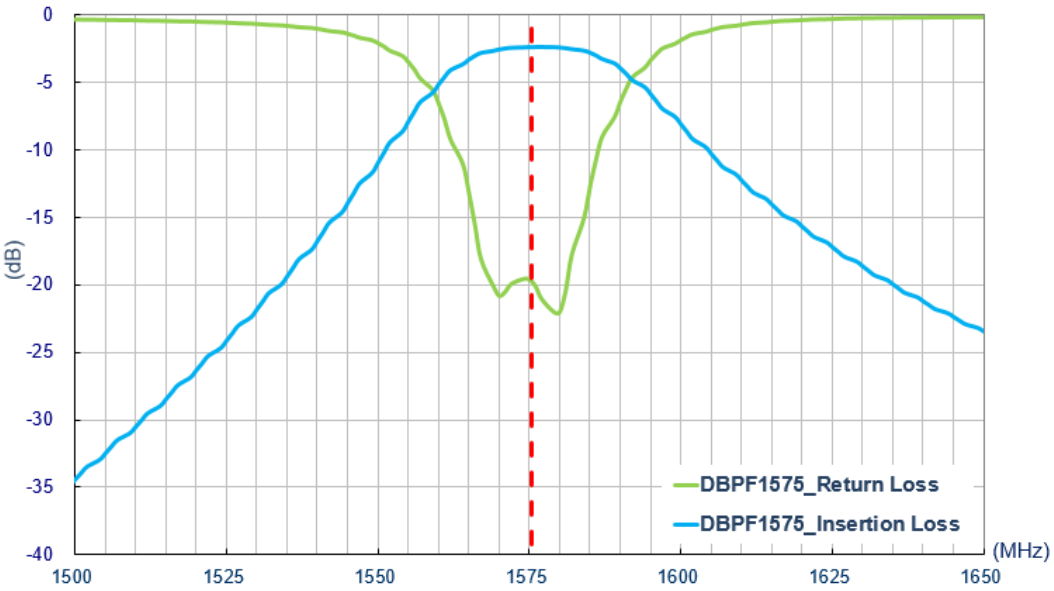
The DBP.1575.W.A.30 is a standard Taoglas product but can be customized for specific customer needs. For more information please contact your regional sales office.

2. Specifications

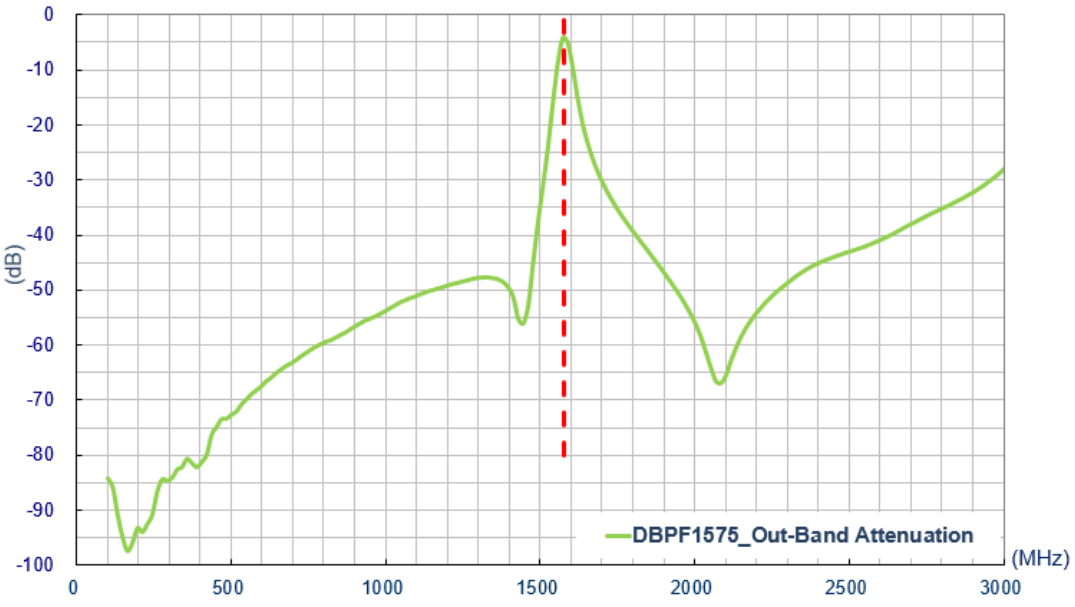
Antenna	
Centre Frequency (Fo)	1575.42MHz
3dB Bandwidth	10 MHz
Insertion Loss	3.5 dB max
Passband Ripple	0.5 dB max
Return Loss	< -10 dB
Attenuation	> 50dB @ 100MHz ~ 1100MHz > 45dB @ 1100MHz ~ 1400MHz > 30dB @ 1400MHz ~ 1500MHz > 35dB @ 1800MHz ~ 1900MHz > 45dB @ 1900MHz ~ 2300MHz > 25dB @ 2300MHz ~ 3000MHz
Impedance (Ω)	50Ω
Power Dissipation	1.0 W min.
Mechanical	
Dimensions (mm)	5.8 x 5.1 x 2.8 (L x W x H)
Material	Ceramic
Finish	Ag plated
Mechanical	
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Moisture Sensitivity Level (MSL)	3 (168 Hours)

3. Antenna Characteristics

3.1 Pass Band Return & Insertion Loss

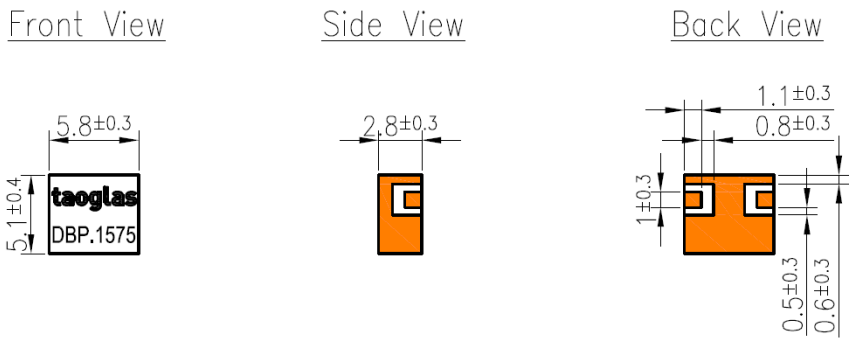


3.2 Out-Of-Band Attenuation

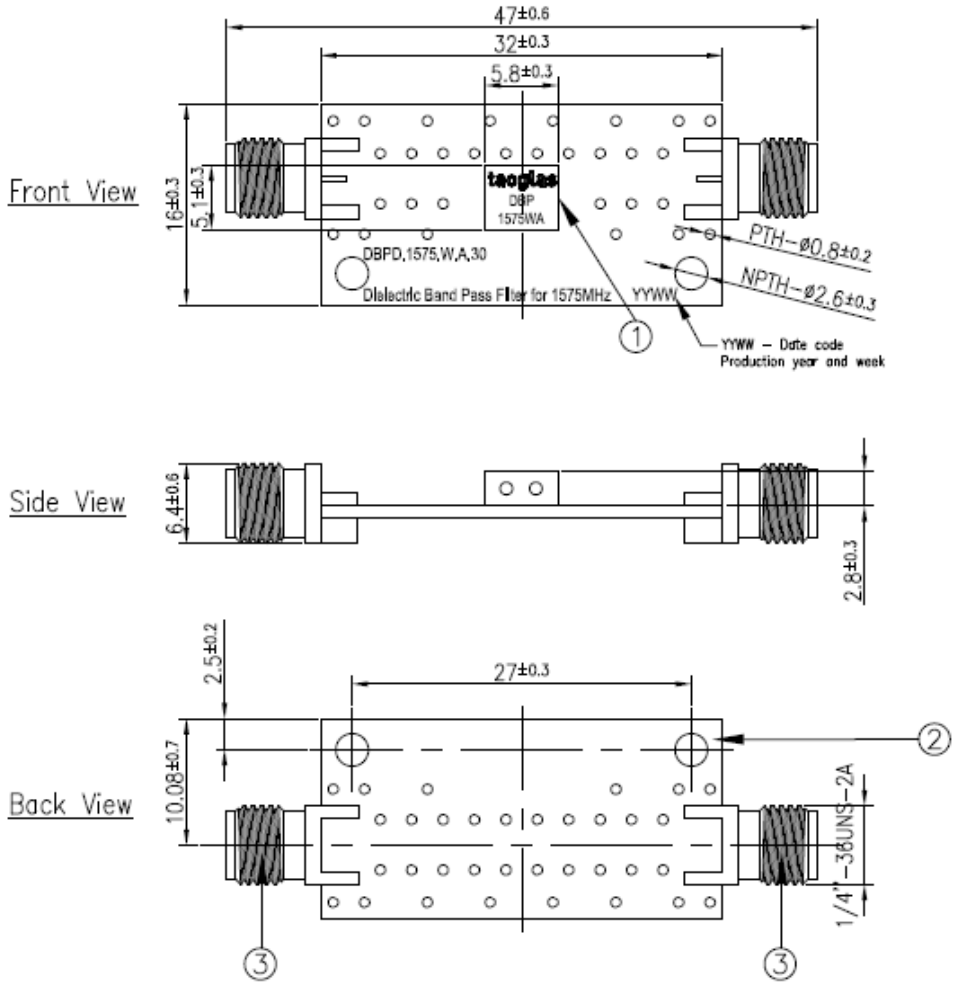


4. Mechanical Drawing

4.1 Antenna Drawing



4.2 Evaluation Board

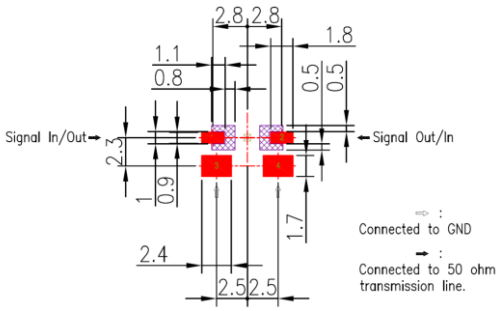


NOTE:
1.All material must be RoHS compliant.

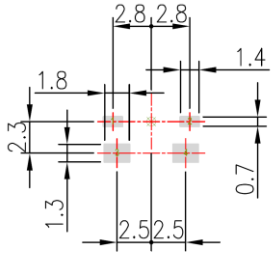
	Name	Material	Finish	QTY
1	Filter	Ceramic	Clear	1
2	PCB	Composite 1.0t	Black	1
3	SMA(F) ST	Brass	Au Plated	2

5. Layout Guide

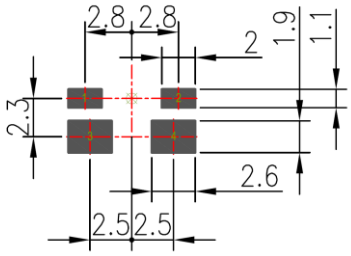
5.1 Top Copper



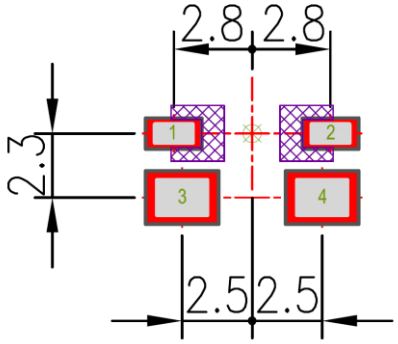
5.2 Top Solder Paste



5.3 Top solder Mask



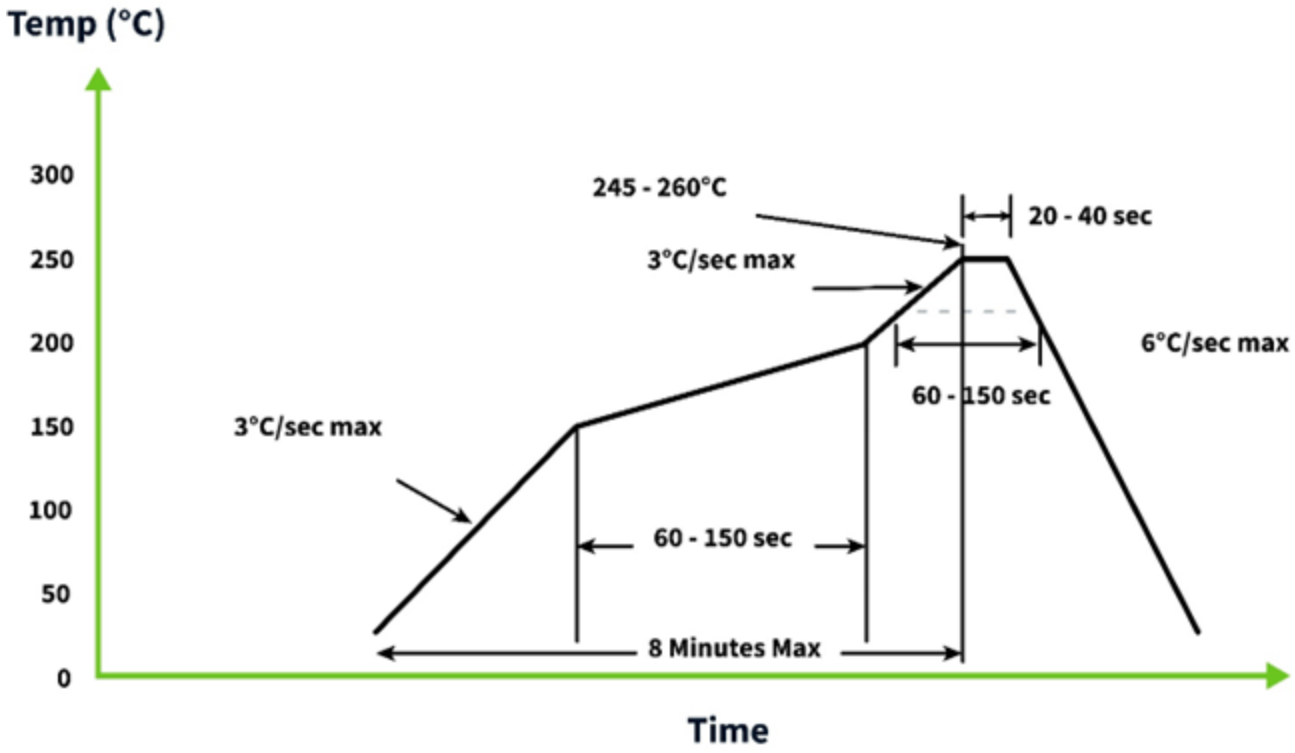
5.4 Top Solder Paste



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

6. Soldering Conditions

The DBP.1575.W.A.30 can be assembled by following the recommended soldering temperatures are as follows:



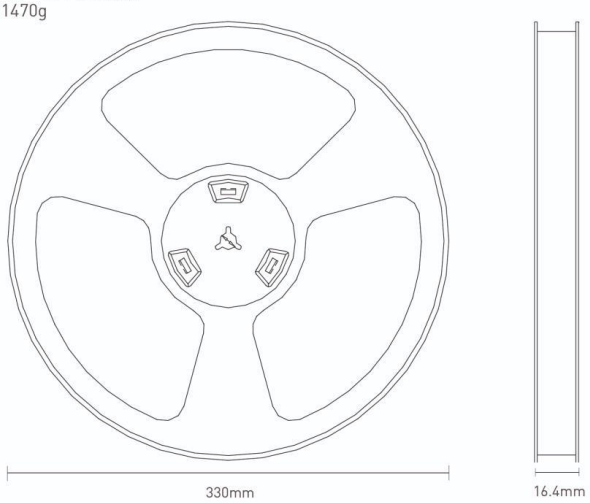
*Temperatures listed within a tolerance of +/- 10º C

Smaller components are typically mounted on the first pass, however, we do advise mounting the DBP.1575.W.A.30 when placing larger components on the board during subsequent reflows.

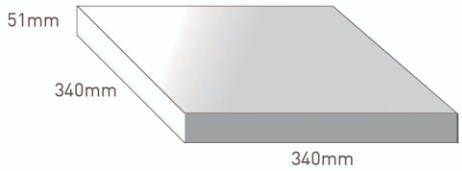
Note: Soldering flux classified ROL0 under IPC J-STD-004 is recommended.

7. Packaging

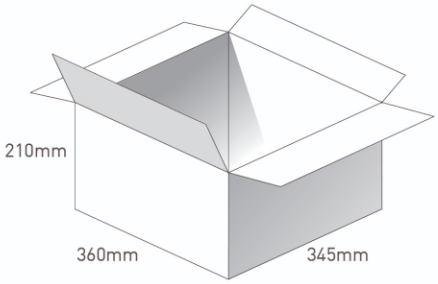
2500 pc DBP.1575.W.A.30
1 reel per small inner box
Dimensions - 330*16.4mm
Weight - 1470g



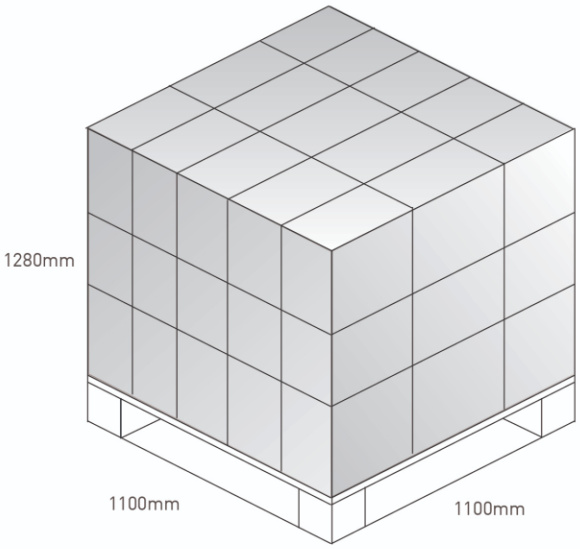
5000 pc DBP.1575.W.A.30
2 reel in small inner box
Dimensions - 340*340*51
Weight - 3.05Kg



4 inner boxes / 20000 pcs in one carton
Carton Dimensions - 210*345*360mm
Weight -12.7Kg



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



Changelog for the datasheet

SPE-17-8-061-C – DBP.1575.W.A.30

Revision: D (Current Version)	
Date:	2023-09-05
Changes:	Updated Solder Reflow Information
Changes Made by:	Cesar Sousa

Previous Revisions

Revision: C	
Date:	2021-10-05
Changes:	Format Change, MSL
Changes Made by:	Erik Landi

Revision: B	
Date:	2018-05-01
Changes:	Performance charts update as the EVB is now made in Tainan.
Changes Made by:	Carol Faughnan

Revision: A (Original First Release)	
Date:	2017-11-9
Notes:	Initial Release
Author:	STAFF

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