



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

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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.

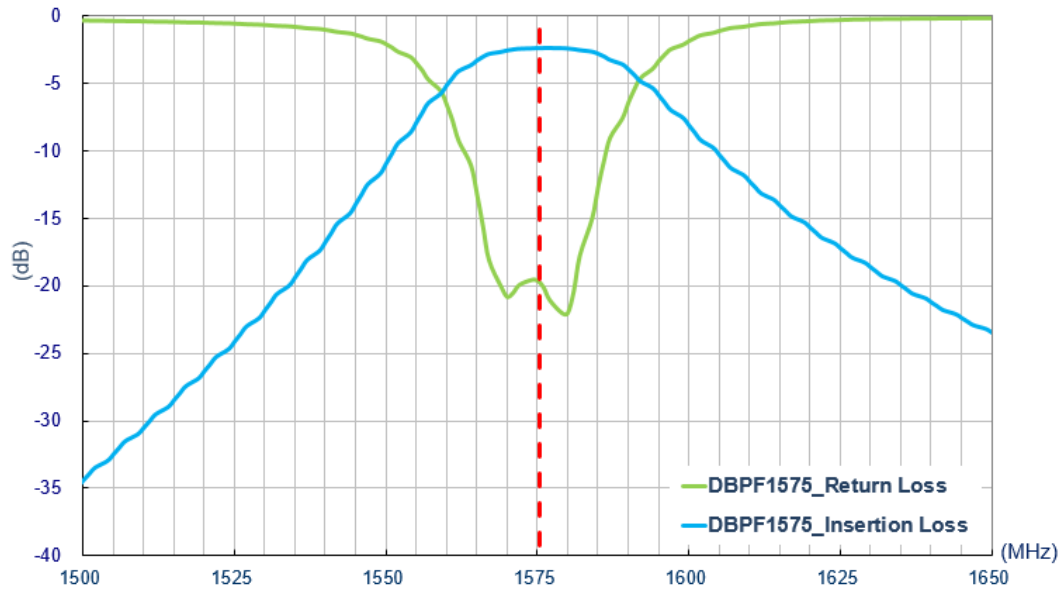
The DBP.1575.W.A.30 is a standard Taoglas product but can be customized for specific customer needs. For more information please contact your regional sales office.

2. Specifications

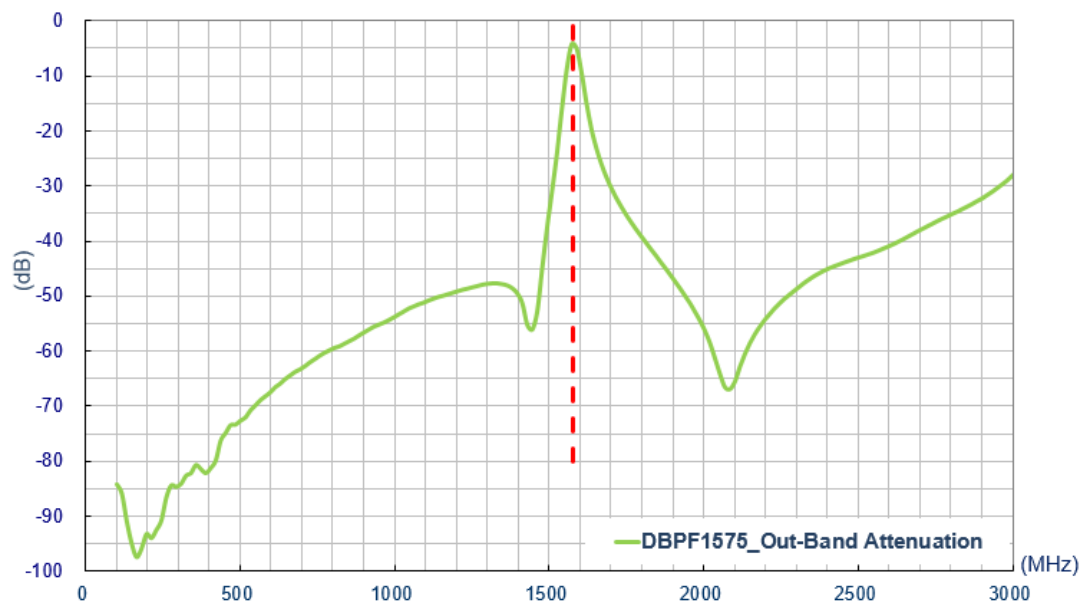
Antenna	
Centre Frequency (Fo)	1575.42MHz
3dB Bandwidth	10 MHz
Insertion Loss	3.5 dB max
Passband Ripple	0.5 dB max
Return Loss	< -10 dB
Attenuation	> 50dB @ 100MHz ~ 1100MHz > 45dB @ 1100MHz ~ 1400MHz > 30dB @ 1400MHz ~ 1500MHz > 35dB @ 1800MHz ~ 1900MHz > 45dB @ 1900MHz ~ 2300MHz > 25dB @ 2300MHz ~ 3000MHz
Impedance (Ω)	50 Ω
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



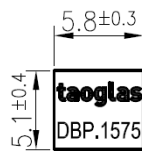
3.2 Out-Of-Band Attenuation



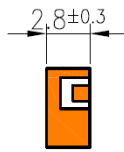
4. Mechanical Drawing

4.1 Antenna Drawing

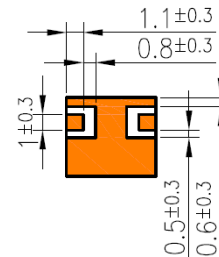
Front View



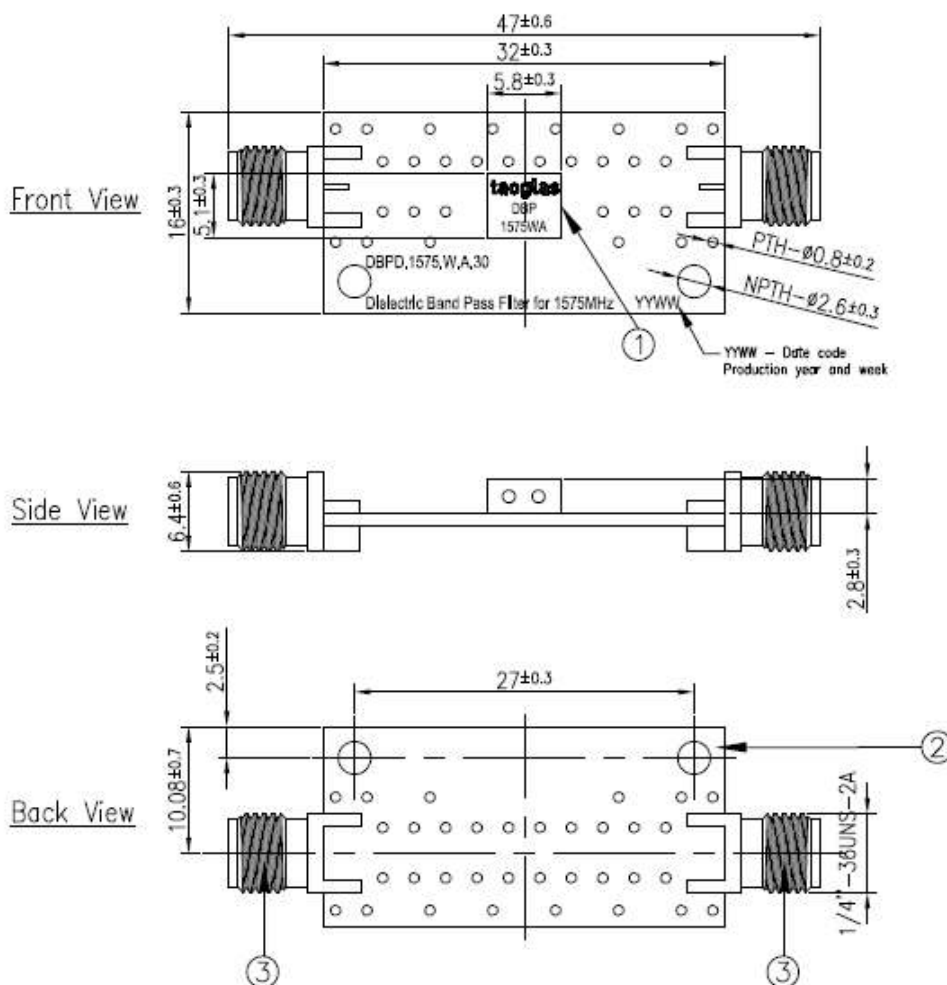
Side View



Back View



4.2 Evaluation Board

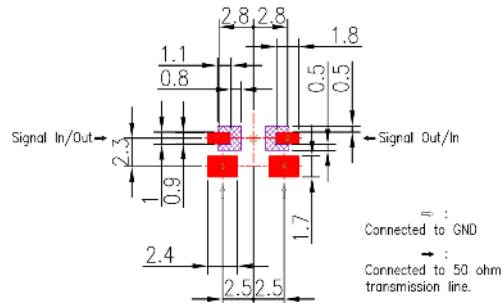


NOTE:
1.All material must be RoHS compliant.

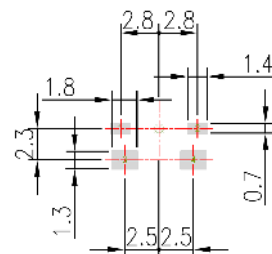
	Name	Material	Finish	Qty
1	Filter	Ceramic	Clear	1
2	PCB	Composite 1.0t	Black	1
3	SMA(F) ST	Brass	Au Plated	2

5. Layout Guide

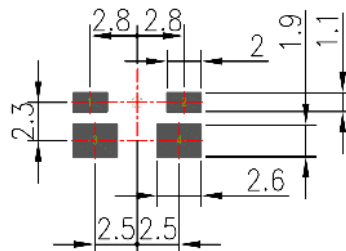
5.1 Top Copper



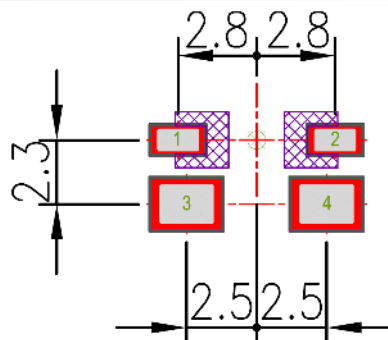
5.2 Top Solder Paste



5.3 Top solder Mask



5.4 Top Solder Paste



NOTE:

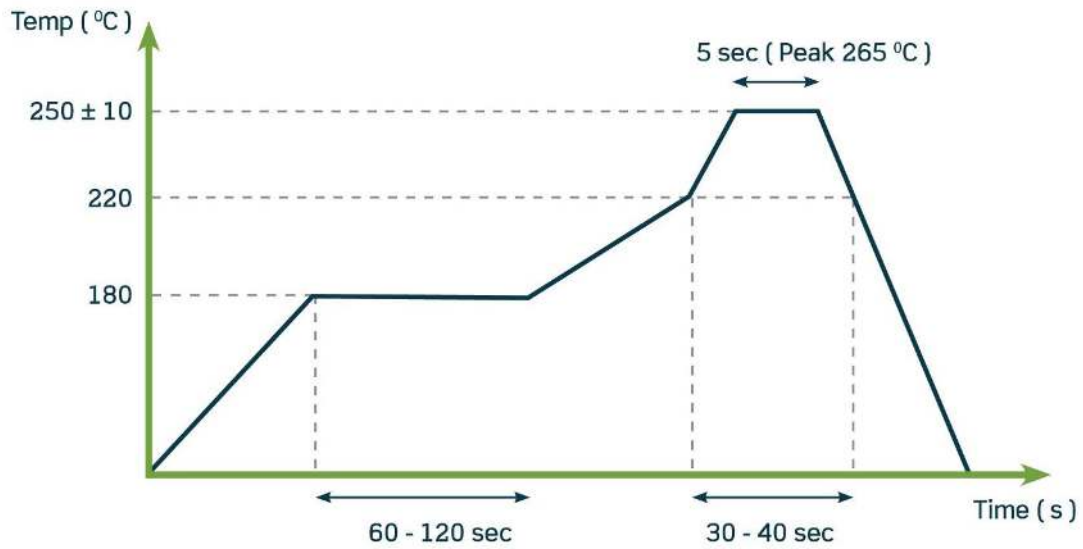
1. Ag Plated area
2. Solder Mask area
3. Copper area
4. Paste area
5. Copper Keepout Area



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

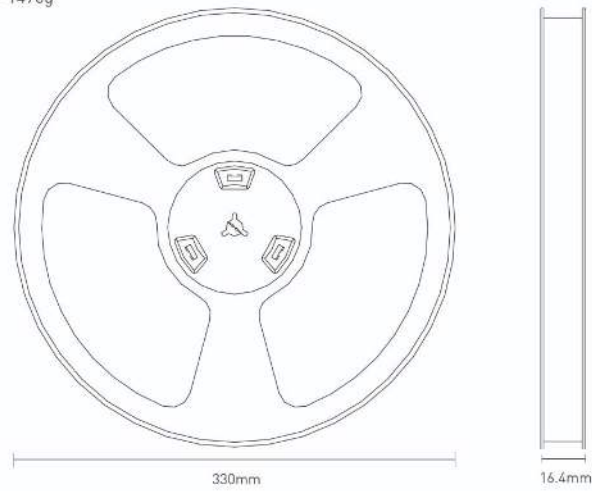
Typical Soldering profile for lead-free process:



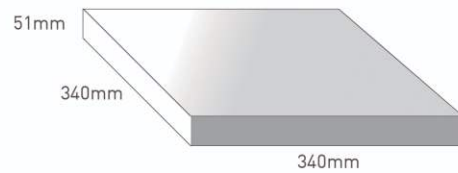
Phase	Profile Features	Maximum
Preheat	Temperature Min Temperature Max Duration	150 °C 180 °C 60-120 sec
Ramp-Up	Avg. Ramp up rate	3 °C/sec (max)
Reflow	Temperature Duration	220 °C 0-40 sec
Peak	Temperature Duration	265 °C 5 sec Max
Ramp Down	Avg. Ramp down rate	3 °C/sec (max)

7. Packaging

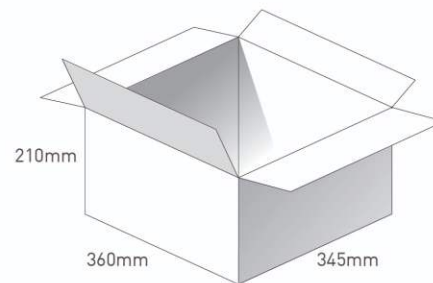
2500 pc DBP.1575.W.A.30
1 reel per small inner box
Dimensions - 330*16.4mm
Weight - 1470g



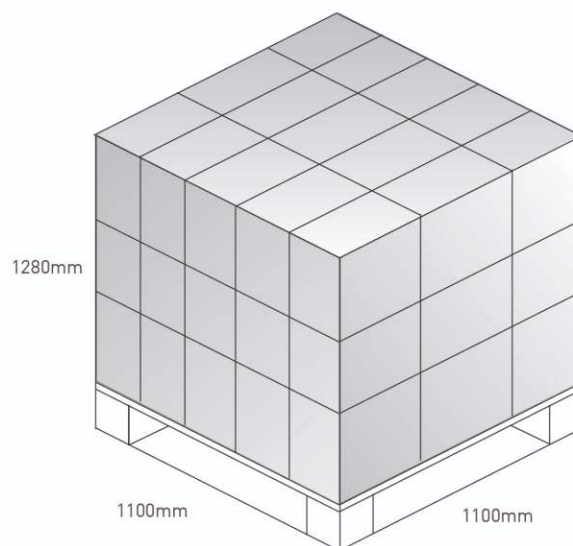
5000 pc DBP.1575.W.A.30
 2 reel in small inner box
 Dimensions - 340*340*51
 Weight - 3.05Kg



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: C (Current Version)	
Date:	2021-10-05
Changes:	Format Change, MSL
Changes Made by:	Erik Landi

Previous Revisions

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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