

### **Data Sheet**

# Part Number 855969 1575.42 MHz SAW Filter

#### **Features**

- For GPS applications
- Usable bandwidth 2.4 MHz
- Low loss
- No impedance matching required for operation at 50  $\Omega$
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free (Pb)



#### **Pin Configuration**

Package Surface Mount 3.00 x 3.00 x 1.22 mm



Dimensions shown are nominal in millimeters All tolerances are  $\pm 0.15$ mm except overall length and width  $\pm 0.10$ mm

Body: *Al*<sub>2</sub>O<sub>3</sub> ceramic Lid: *Kovar*, *Ni* plated Terminations: *Au* plating 0.5 - 1.0μm, over a 2 - 6μm *Ni* plating Bottom View



Pin No.	Description
2,5	Input/Output
1,3,4,6	Case ground



## **Data Sheet**

### Electrical Specifications <sup>(1)</sup>

**Operating Temperature Range:** <sup>(2)</sup> -40 to +85 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
Center Frequency	-	1575.42	-	MHz
Maximum Insertion Loss				
1574.22 - 1576.62 MHz	-	1.3	1.8	dB
Passband Ripple				
1574.22 - 1576.62 MHz	-	0.3	1	dB p-p
Absolute Attenuation				
10 - 1450 MHz	40	42	-	dB
1450 - 1500 MHz	30	45	-	dB
1625 - 1640 MHz	30	58	-	dB
1640 - 2000 MHz	45	49	-	dB
2000 - 3000 MHz	30	35	-	dB
Input/Output VSWR				
1574.22 - 1576.62 MHz	-	1.2:1	2:1	dB
Source Impedance: <sup>(4)</sup>	-	50	-	Ω
Load Impedance: <sup>(4)</sup>	-	50	-	Ω

#### Notes:

- 1. All specifications are based on the test circuit shown below
- 2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
- 3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
- 4. This is the optimum impedance in order to achieve the performance shown

#### Test Circuit:

 $50 \ \Omega$ Single-ended



No impedance matching required



# **Data Sheet**

### **Typical Performance** (at +25°C)





## **Data Sheet**

### **Matching Schematics**



### Marking



#### **PCB Footprint**



The date code consists of: JJJ = Julian day, Y = last digit of year, M = manufacturing site code This footprint represents a recommendation only Dimensions shown are nominal in millimeters

Tape and Reel





### **Data Sheet**

Maximum Ratings							
Parameter	Symbol	Minimum	Maximum	Unit			
Operating Temperature Range	Т	-40	+85	°C			
Storage Temperature Range	T <sub>stg</sub>	-40	+85	°C			
RF Power	Pin	-	+10	dBm			

#### **Important Notes**

#### Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure

#### **RoHS Compliance**

This product complies with EU directive 2002/95/EC (RoHS) (Pb

#### Solderability

- Compatible with JEDEC J-STD-020C Pb-free process, 260°C peak reflow temperature (see soldering profile)
  - Links to Additional Technical Information

PCB Layout Tips

**Qualification Flowchart** 

Soldering Profile

S-Parameters

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**RoHS Information** 

Other Technical Information

Sawtek's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. Sawtek does not accept any liability for applications, processes, circuits or assemblies, which are implemented using any Sawtek component described in this data sheet.

### **Contact Information**

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