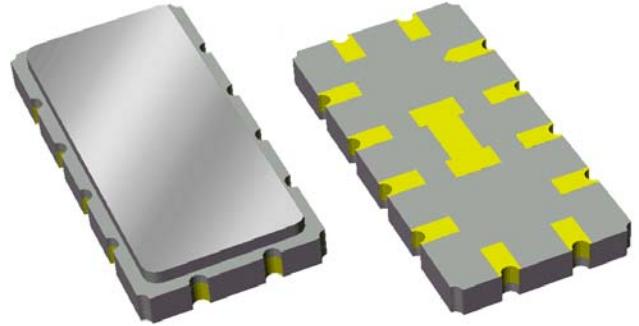


# Data Sheet

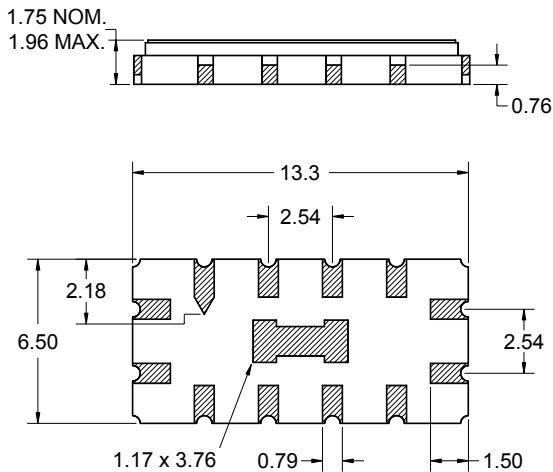
## Features

- Standard 70 MHz family – low loss
- Typical 3 dB bandwidth of 20 MHz
- Low loss
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size



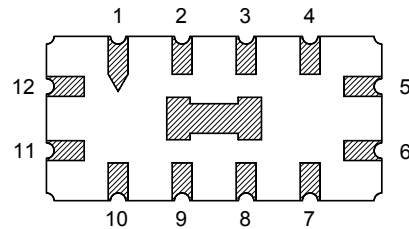
## Package

Surface Mount 13.30 x 6.50 x 1.75 mm



## Pin Configuration

Bottom View



Pin No.	Description
5	Output
6	Output return
11	Input
12	Input return
1,2,3,4	Ground
7,8,9,10	Ground

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

Body:  $Al_2O_3$  ceramic  
 Lid: Kovar, Ni plated  
 Terminations: Au plating 0.5 - 1.0 $\mu$ m,  
 over a 2 - 6 $\mu$ m Ni plating

**Data Sheet**
**Electrical Specifications <sup>(1)</sup>**

 Operating Temperature: <sup>(2)</sup> +25 °C

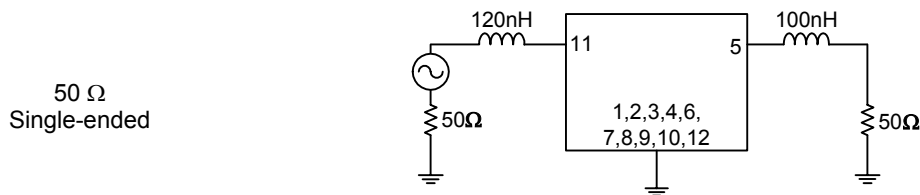
Parameter	Minimum	Typical	Maximum	Unit
Center Frequency	69.8	70	70.2	MHz
Insertion Loss at F <sub>0</sub>	-	14.5	15	dB
1 dB Bandwidth	18.9	19.3	-	MHz
3 dB Bandwidth	20	20.35	-	MHz
40 dB Bandwidth	-	25.4	26.1	MHz
Passband Ripple	-	0.7	1	dB p-p
Phase Linearity (90% of 3dB Bandwidth)	-	8.25	11.25	deg
Group Delay Variation (90% of 3dB Bandwidth)	-	65	90	nsec
Absolute Delay	-	1.12	-	μsec
Substrate Material	-	YZ LiNbO <sub>3</sub>	-	-
Temperature Coefficient <sup>(2)</sup>	-	-94	-	ppm/°C
Source Impedance <sup>(3)</sup>	-	50	-	Ω
Load Impedance <sup>(3)</sup>	-	50	-	Ω

**Notes:**

1. All specifications are based on the test circuit shown below
2. Device will function over the storage temperature range (-40 to +85 deg C). However, specifications are only guaranteed at the operating temperature of 25 deg C. The temperature coefficient will define the frequency shift over temperature.
3. This is the optimum impedance in order to achieve the performance shown

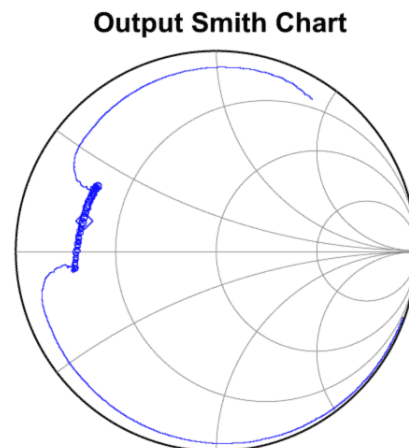
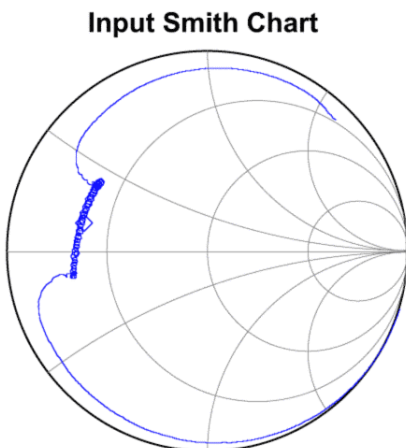
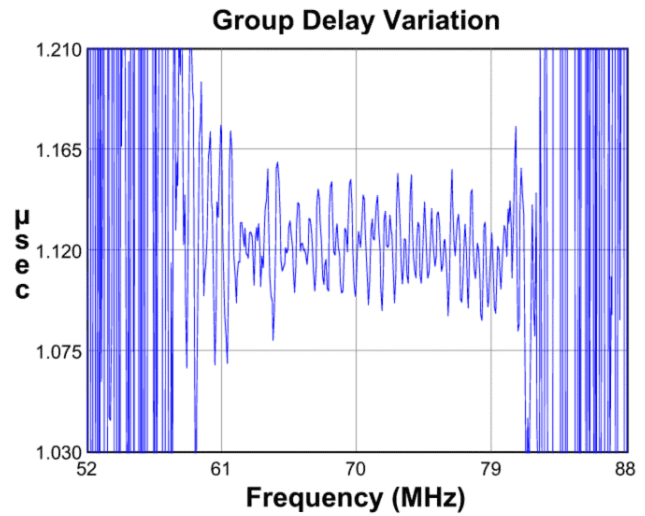
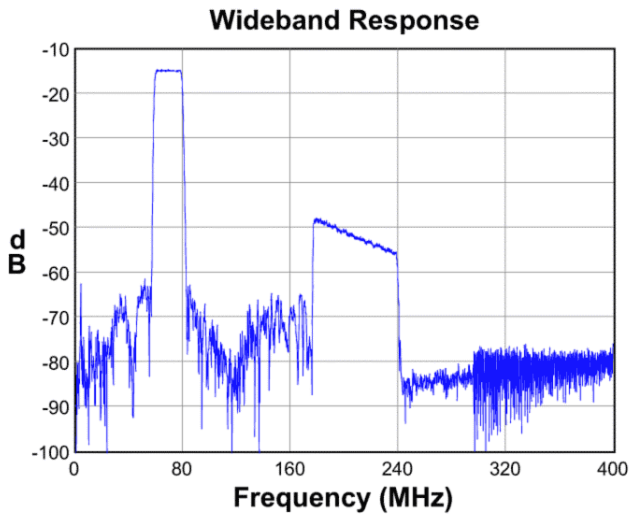
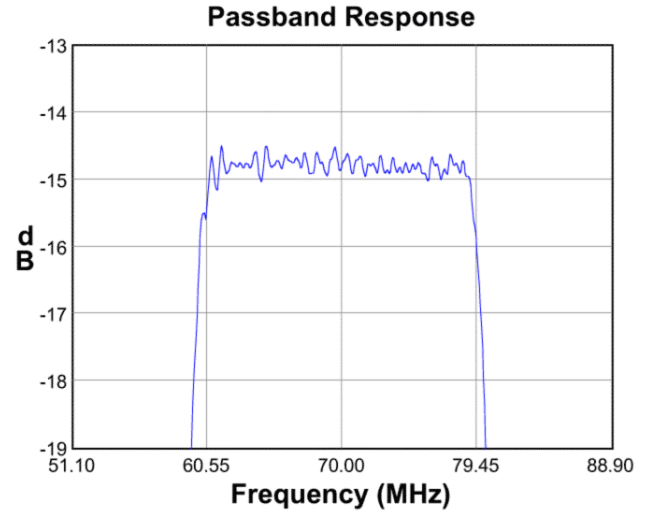
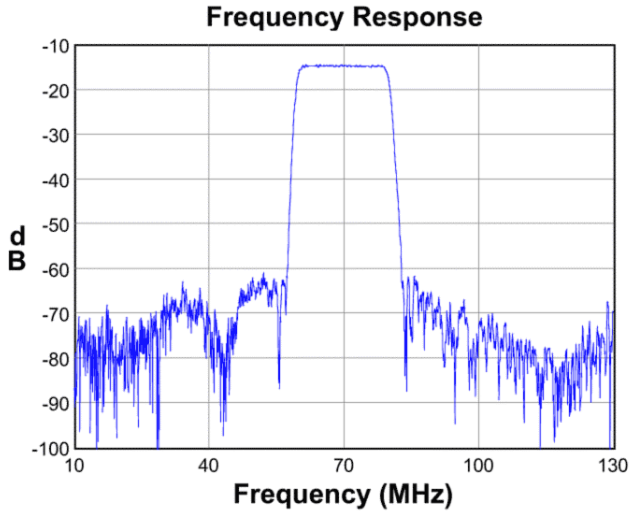
**Test Circuit:**

Actual matching values may vary due to PCB layout and parasitics



**Data Sheet**

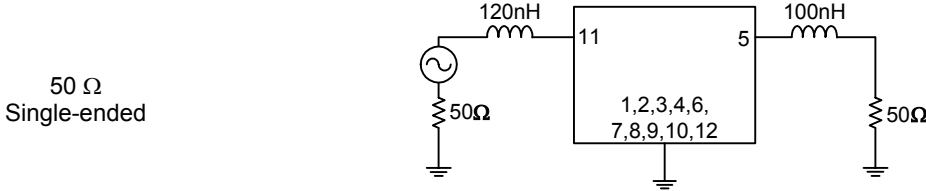
**Typical Performance (at +25°C)**



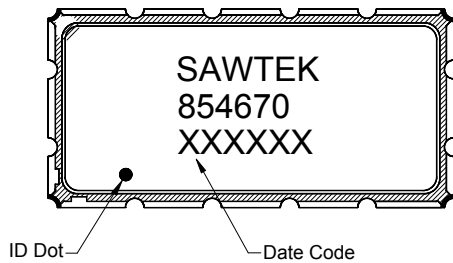
**Data Sheet**

**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics

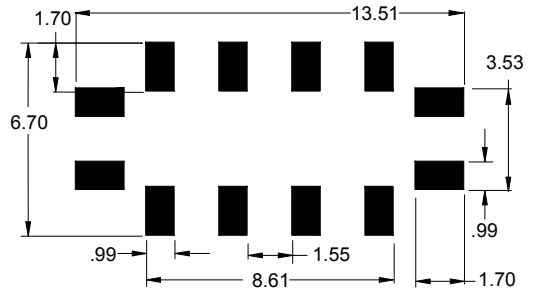


**Marking**



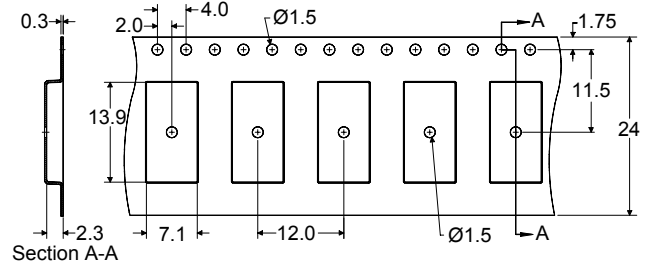
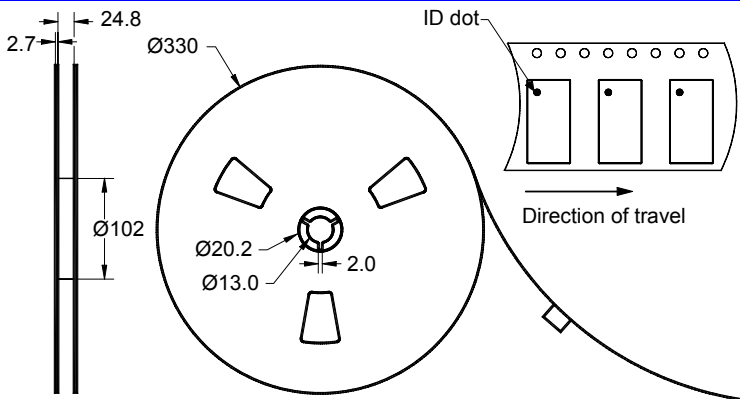
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

**PCB Footprint**



This footprint represents a recommendation only  
Dimensions shown are nominal in millimeters

**Tape and Reel**




Dimensions shown are nominal in millimeters  
Packaging quantity: 2000 units/reel

# Data Sheet

## Maximum Ratings

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Temperature Range	T	-	+25	-	°C
Storage Temperature Range	T <sub>stg</sub>	-40	-	+85	°C
RF Power	P <sub>in</sub>	-	-	+10	dBm

### Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

## Links to Additional Technical Information

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[Other Technical Information](#)

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