

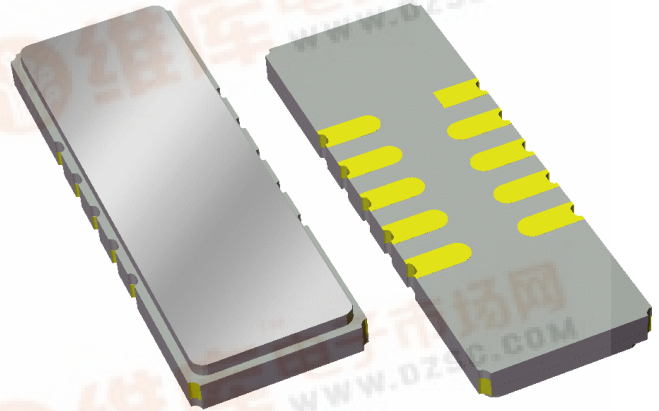


Part Number 855740
70 MHz SAW Filter

Preliminary Data Sheet

Features

- For broadband applications
- Typical 3 dB bandwidth of 2.7 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size
- Replaces Sawtek P/N 851547 (BW 3dB=2.5 MHz)

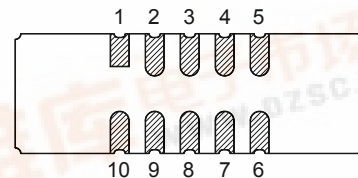
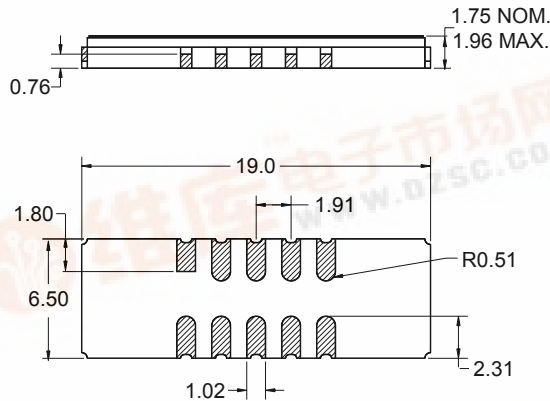


Package

Surface Mount 19.00 x 6.50 x 1.75 mm

Pin Configuration

Bottom View



Pin No.	Description
5	RF output
10	RF input
1,6	Ground
2,3,4	Case ground
7,8,9	Case ground

Dimensions shown are nominal in millimeters
All tolerances are ± 0.15 mm except overall length and width $+0.15$ mm/ -0.10 mm

Body: Al_2O_3 ceramic
Lid: Kovar, Ni plated

Terminations: Au plating 0.5 - 1.0 μ m,
over a 2 - 6 μ m Ni plating



Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ 0 to +70 °C

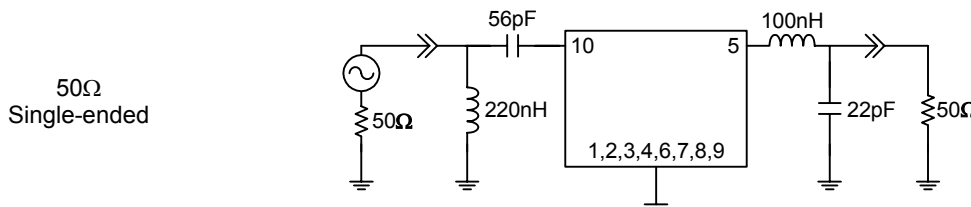
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	70	-	MHz
Minimum Insertion Loss	-	20.25	21.25	dB
Lower 1 dB Bandedge ⁽⁴⁾	-	68.8	68.9	MHz
Upper 1 dB Bandedge	71.1	71.2	-	MHz
Lower 3 dB Bandedge ⁽⁴⁾	-	68.65	68.75	MHz
Upper 3 dB Bandedge	71.25	71.35	-	MHz
Lower 40 dB Bandedge ⁽⁴⁾	67.9	67.99	-	MHz
Upper 40 dB Bandedge	-	71.95	72.2	MHz
Amplitude Variation 68.9 - 71.1 MHz	-	0.7	1	dB
Phase Linearity 68.9 - 71.1 MHz	-	2	3.75	deg
Group Delay Variation 68.9 - 71.1 MHz	-	90	125	nsec
Absolute Delay	-	2.3	-	μsec
Relative Attenuation ⁽⁴⁾				
10 - 67.5 MHz	50	58	-	dB
72.5 - 125 MHz	50	55	-	dB
125 - 150 MHz	30	35	-	dB
150 - 200 MHz	50	60	-	dB
Source Impedance: ⁽⁵⁾	-	50	-	Ω
Load Impedance: ⁽⁵⁾	-	50	-	Ω
Substrate Material	-	LiTaO ₃	-	-
Temperature Coefficient of Frequency	-	-23	-	ppm/°C

Notes:

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

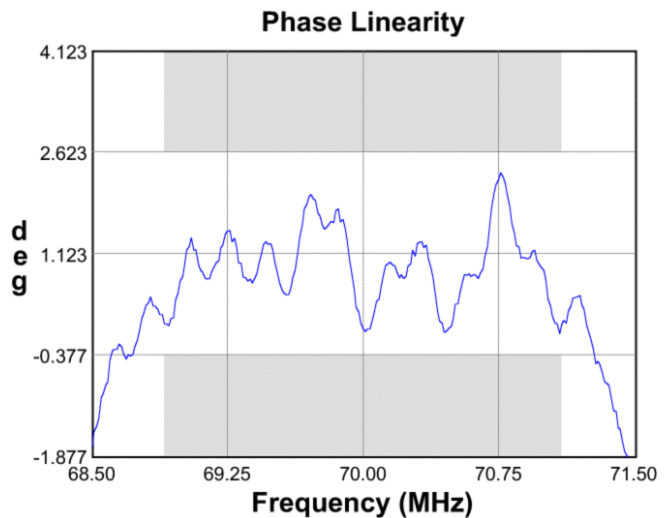
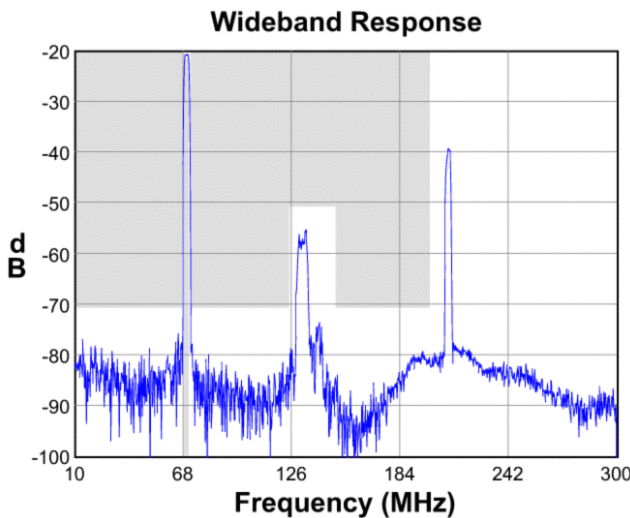
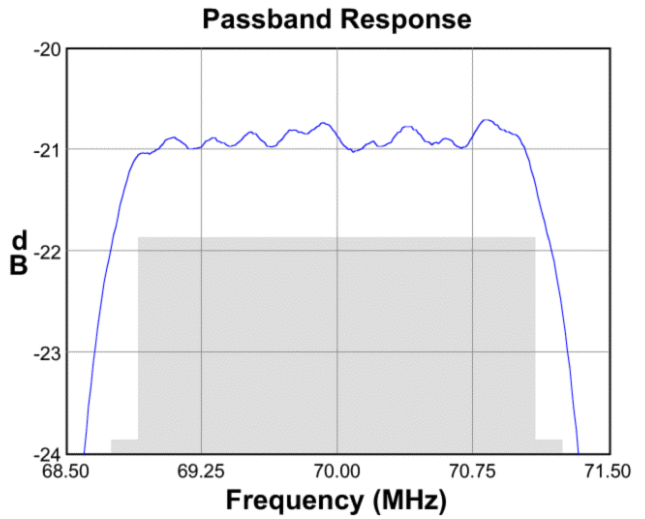
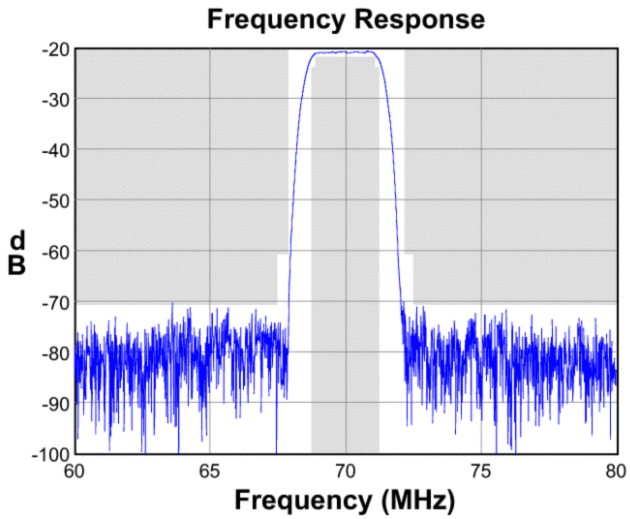
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

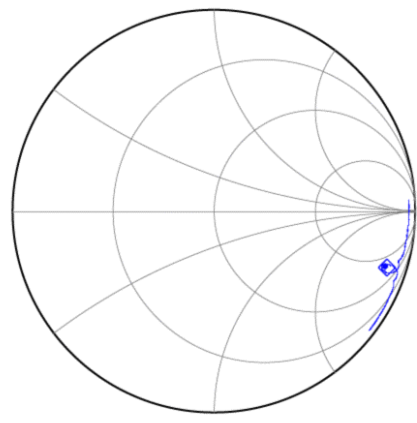


Preliminary Data Sheet

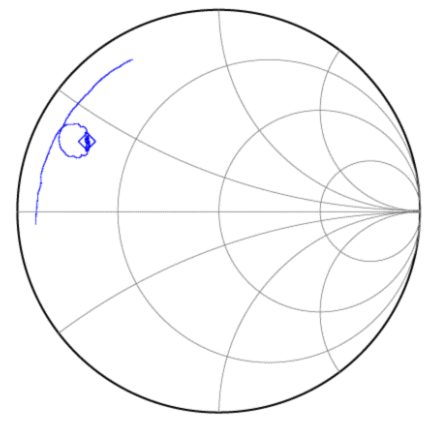
Typical Performance (at +25°C)



Input Smith Chart



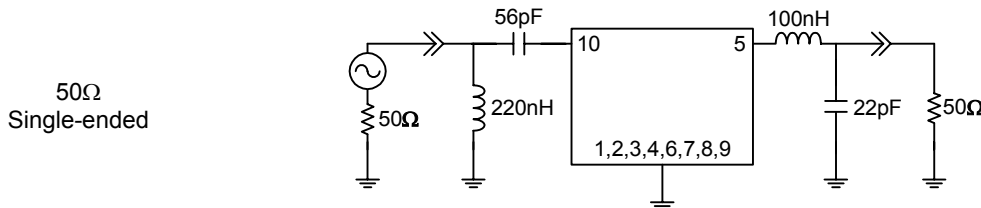
Output Smith Chart



Preliminary Data Sheet

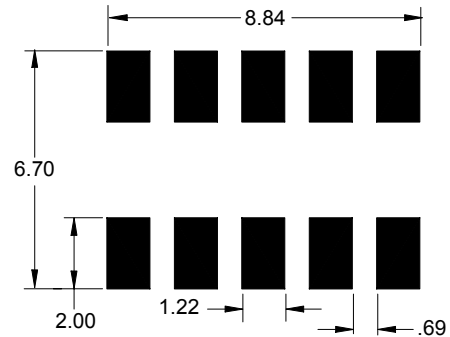
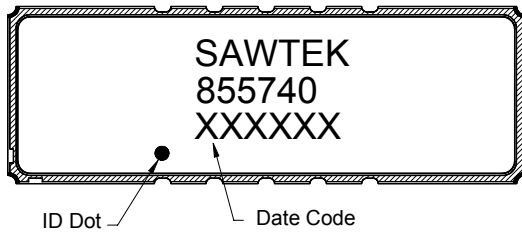
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

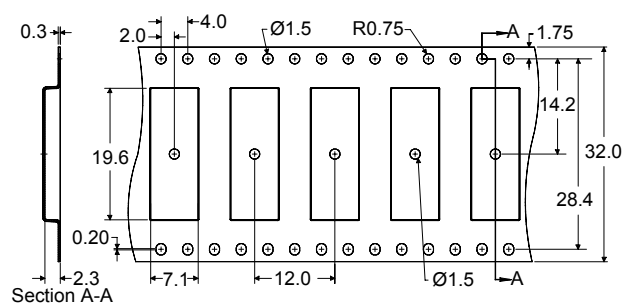
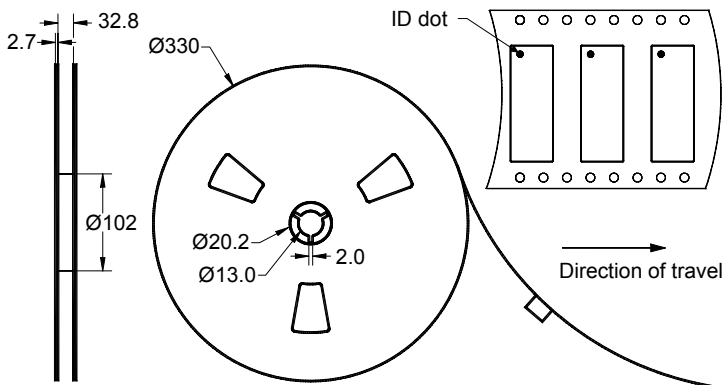
PCB Footprint



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

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

Preliminary Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Temperature Range	T	0	+25	+70	°C
Storage Temperature Range	T _{stg}	-40	-	+85	°C

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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