

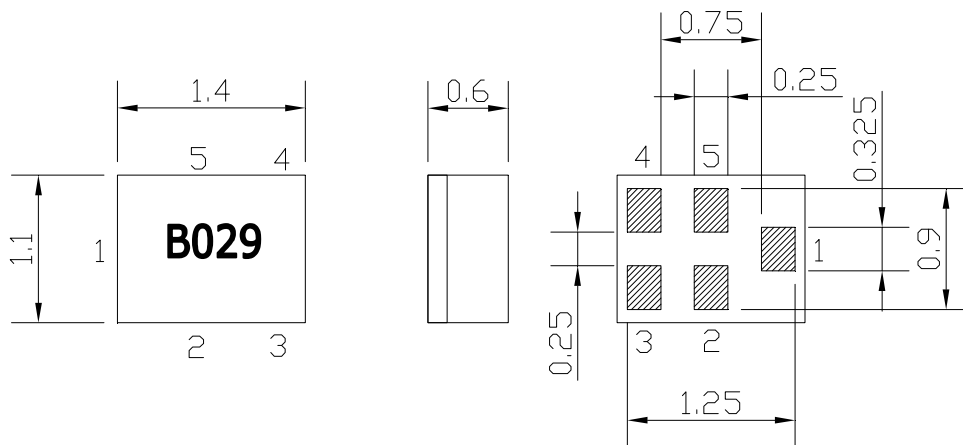
# SAW Bandpass Filter F1G5N



## Features

- RF bandpass filter
- No matching 50Ω single-ended operation
- Ceramic Surface Mounted Device Package ( 1.4 mm × 1.1 mm )
- RoHS Compliant
- This part is compliant with AEC-Q200

## Package Dimensions



Dimensions shown are nominal in millimeters

Body : Al<sub>2</sub>O<sub>3</sub> Ceramic

Lid : Kovar, Ni Plated

Terminations : Au plating 0.3 ~ 1.0 um, Over a 1.27 ~ 8.89 um  
Ni Plating

Pin Configuration	
1	Input
4	Output
2, 3, 5	Ground

## Maximum Ratings

Parameter	Unit	Minimum	Typical	Maximum
Operating Temperature Range	℃	-40	25	105
Storage Temperature Range	℃	-45	-	125
Power Handling Capability	dBm	-	-	10

Electrostatics Sensitive Device (ESD)

	<b>ITF Co., Ltd.</b> 102-901, Bucheon Technopark 364, Samjeong-Dong, Ojeong-Gu, Bucheon-City, Gyeonggi-Do, Korea 421-809	Part No.	F1G5N	
		Rev. Date	2016-12-1	
		Rev.	AS04	1/5

# SAW Bandpass Filter F1G5N



## Specifications

$F_c = 1575.42 \text{ MHz}$

Room Temperature : +25°C	Minimum	Typical	Maximum	Unit
Center Frequency ( $F_c$ )	-	1575.42	-	MHz
Insertion Loss ( 1574.22 ~ 1576.62 MHz )	-	1.3	1.8	dB
Amplitude Ripple ( 1574.22 ~ 1576.62 MHz )	-	0.1	0.5	dB p-p
VSWR ( 1574.22 ~ 1576.62 MHz )	-	1.2	1.6	
Attenuation				
0.3 ~ 824 MHz	37	42	-	dB
824 ~ 894 MHz	37	42	-	
1710 ~ 1880 MHz	40	45	-	
1920 ~ 2170 MHz	42	50	-	
2170 ~ 3000 MHz	45	50	-	
Input/Output Impedance		50		Ohms

Operating Temperature : -40°C ~ +105°C	Minimum	Typical	Maximum	Unit
Center Frequency ( $F_c$ )	-	1575.42	-	MHz
Insertion Loss ( 1574.22 ~ 1576.62 MHz )	-	1.3	2.0	dB
Amplitude Ripple ( 1574.22 ~ 1576.62 MHz )	-	0.1	0.5	dB p-p
VSWR ( 1574.22 ~ 1576.62 MHz )	-	1.2	1.6	
Input/Output Impedance		50		Ohms

### Notes :

- 1) All specifications are based on the matching schematic shown below, measured by Agilent Network analyzer and full 2 port calibration.
- 2) Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances

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# SAW Bandpass Filter F1G5N



## Matching Schematic

( Actual matching values may vary due to PCB layout and parasitics )



## Marking Configuration

B<sup>1)</sup> 029<sup>2)</sup>

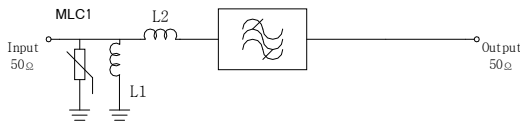
1) Series Number

2) Date Code

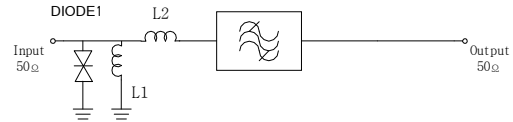
\* Ink or Laser Marking available

## ESD protection of SAW filters

- SAW filters are weak to Electric Static Discharge
- Generally, to overcome damages of ESD, recommend suitable matching structure. (Depending input impedance)

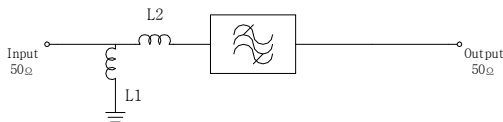


( Case A : MLC varistor used ESD matching structure )

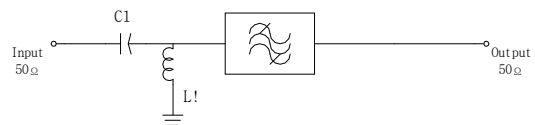


( Case B : Diode used ESD matching structure )

- In case weak ESD used simple L-C component matching structure. (Depending input impedance)



( Case C : Shunt L // Series L matching structure )



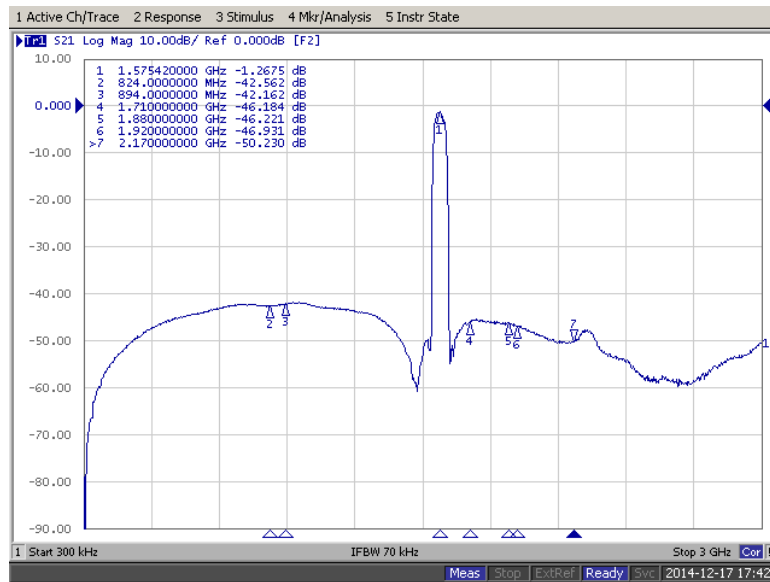
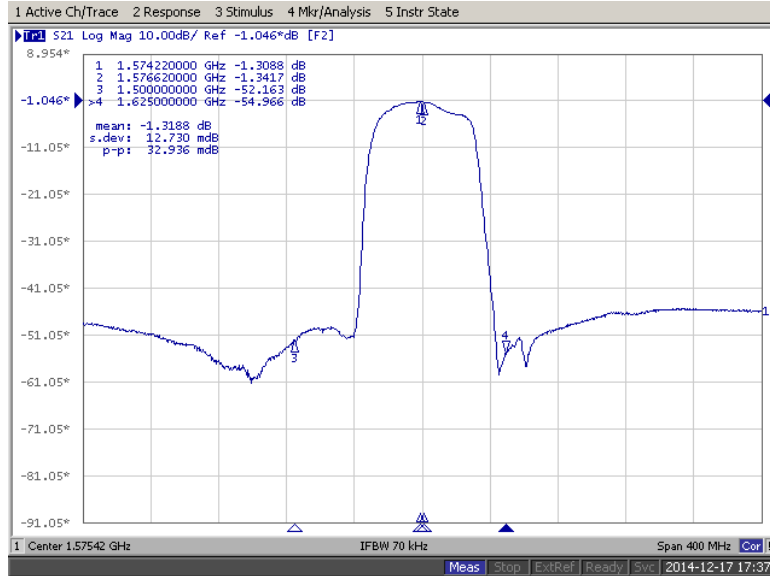
( Case D : Series C // Shunt L matching structure )

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# SAW Bandpass Filter F1G5N



## Typical Performance ( at 25°C )



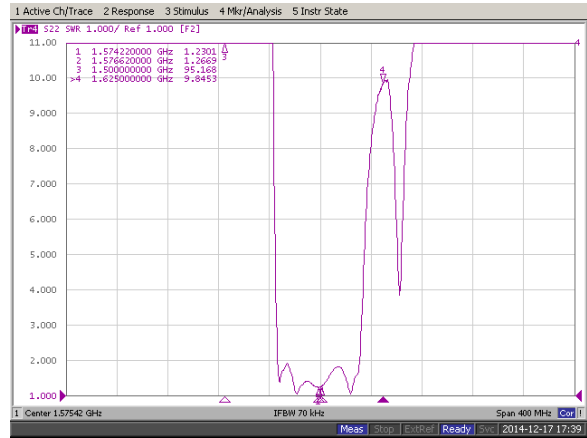
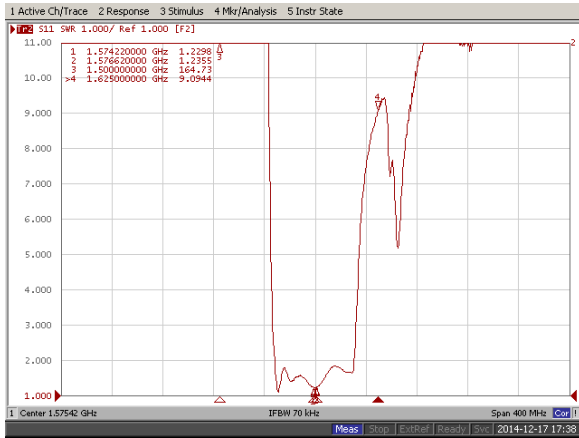
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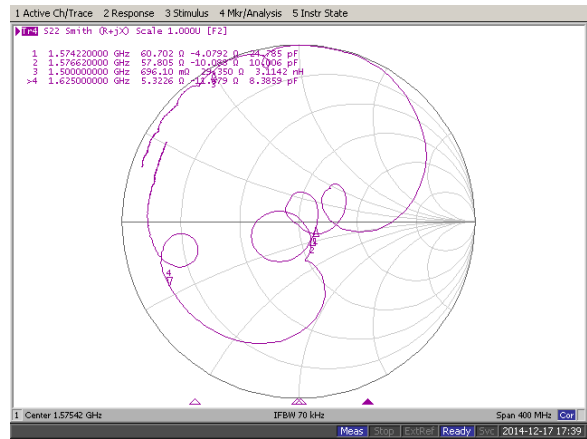
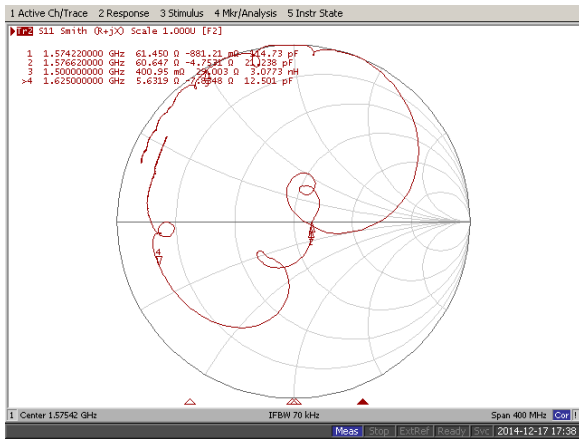
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## Input / Output VSWR Charts



## Input / Output Smith Charts



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Part No.	F1G5N	
Rev. Date	2016-12-1	
Rev.	AS04	5/5