

- 192.0 MHz IF SAW Filter / 11.95 MHz Bandwidth
- Revision 0: 04 Apr. 2008

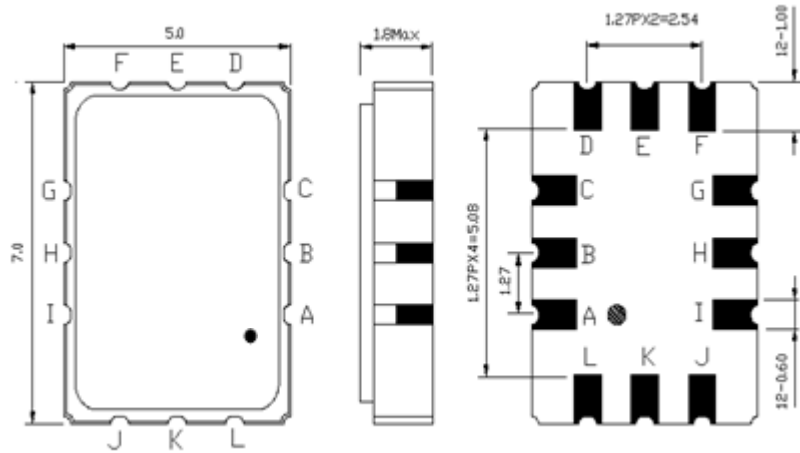
## Electrical Characteristics

MAXIMUM RATING				
PARAMETERS DESCRIPTION	UNIT	MINIMUM	TYPICAL	MAXIMUM
Operation Temperature Range	°C	-40	-	85
Storage Temperature Range	°C	-40	-	85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	18
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	S1			
Length x Width	mm <sup>2</sup>	-	7.0 x 5.0	-
Height	mm	-	-	1.8

ELECTRICAL SPECIFICATION				
PARAMETERS DESCRIPTION	UNIT	MINIMUM	TYPICAL	MAXIMUM
Center Frequency (Fo)	MHz	191.8	192.0	192.2
Insertion Loss at Fo	dB	-	12.2	13.0
Amplitude Ripple at Fo ± 5.25MHz	dB <sub>p-p</sub>	-	0.35	1.0
Group Delay Variation at Fo ± 5.25MHz	ns	-	27	80
Absolute Delay at Fo	µs	-	0.66	-
Temperature Coefficient	ppm/°C	-	-18	-
Bandwidth at -1.0 dB	MHz	11.00	11.93	-
Bandwidth at -40.0 dB	MHz	-	17.40	19.00
Return Loss	dB	12	-	-
Relative Attenuation				
Fo ± 5.25MHz	dB	-	0.35	1.0
Fo ± 7.5MHz ~ Fo ± 11.0MHz	dB	3	11	-
Fo ± 11.0MHz ~ Fo ± 58.0MHz	dB	40	46	-
Fo ± 58.0MHz ~ Fo ± 92.0MHz	dB	50	58	-

**Notes :** (1) With Matching Network (Ref. Testing Environment Circuit as shown below).  
Those impedances could be modified with different impedance values and/or structures, if necessary.

## Package Dimensions

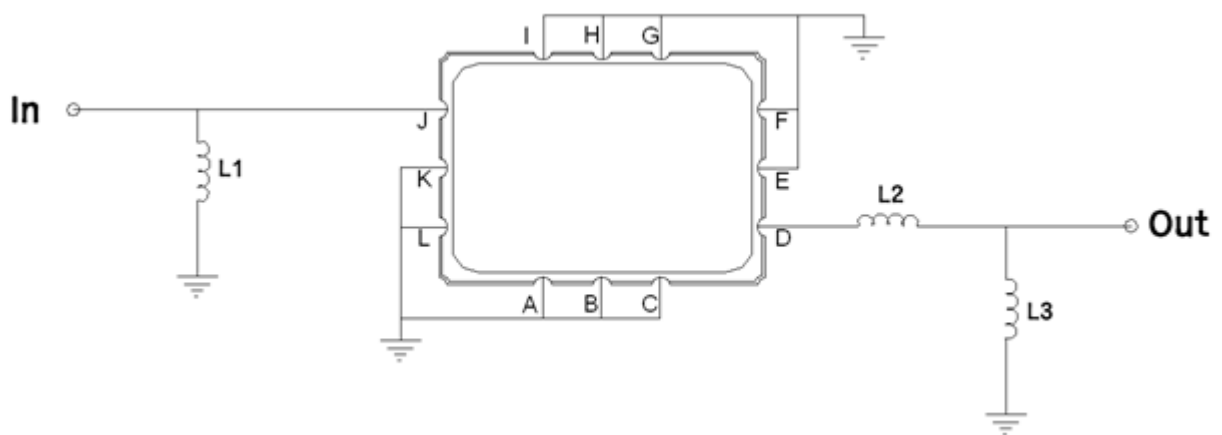


- ① **TRANSKO:** Brand
- ② **TL19213A:** Model Name
- ③ **X :** Date Code (Year)
- ④ **Y :** Date Code (Month)
- ⑤ **Z:** Date Code (Date)
- : Index Dot

### Pin Description

Pin Description	
A, B, C, E, F, G, H, I, K, L	Ground
J	Input
L	Input Ground
D	Output
F	Output Ground

## Testing Environment



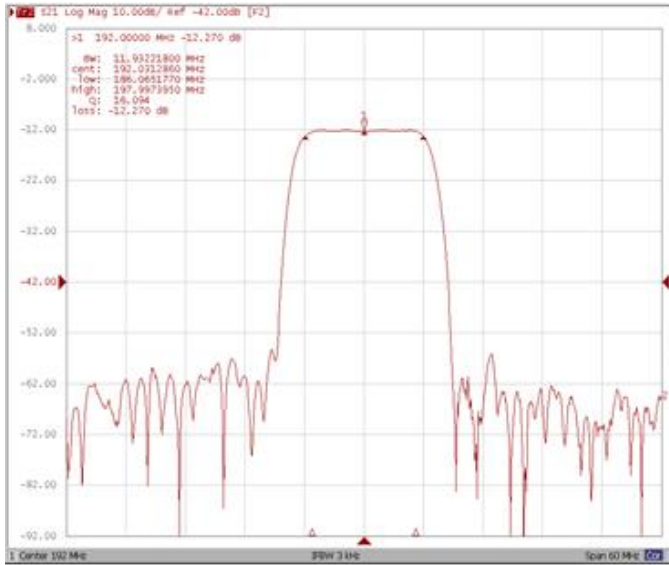
### Test Fixture & Values

Input	L1=12 nH
Output	L2=4.7 nH , L3=15 pF
Source/Load Impedance	50 $\Omega$

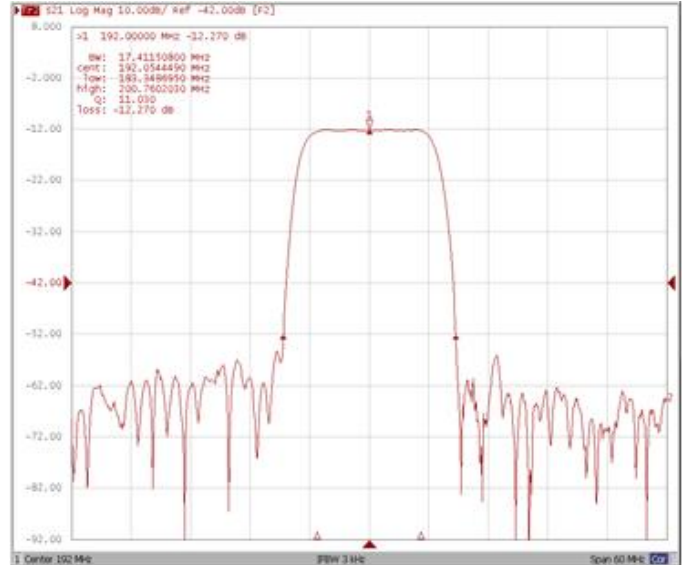
## Frequency Characteristics

### Frequency Response

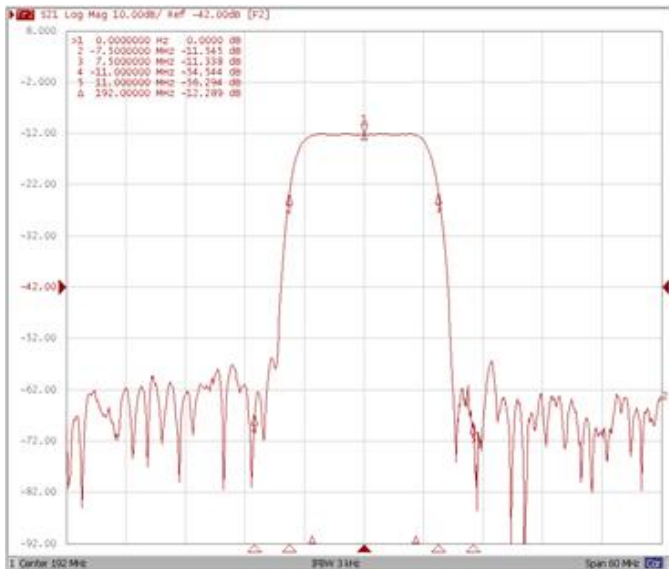
**Bandwidth at -1.0 dB**



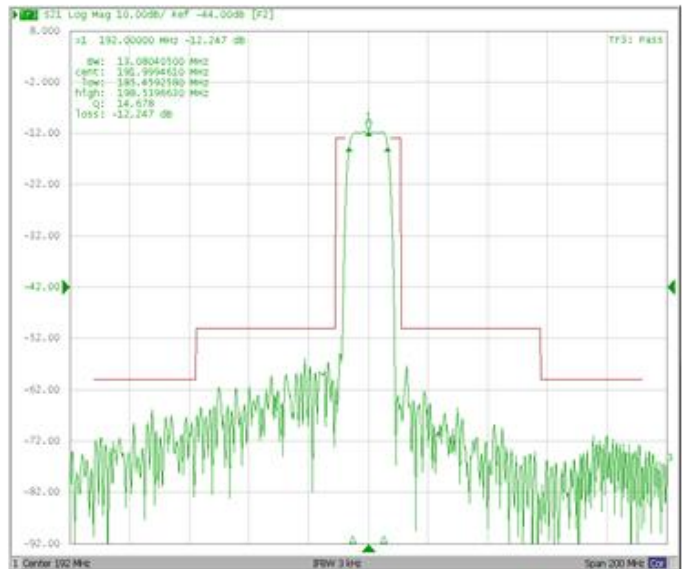
**Bandwidth at -40.0 dB**



**Fo±7.5MHz, Fo±11.0MHz**



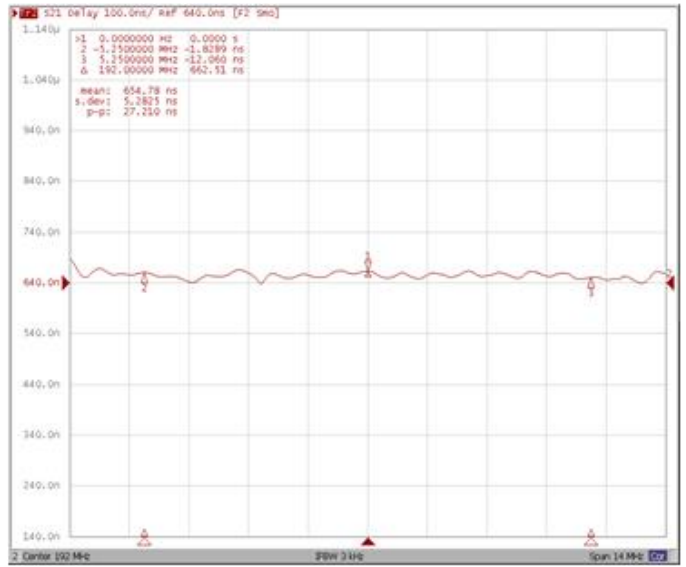
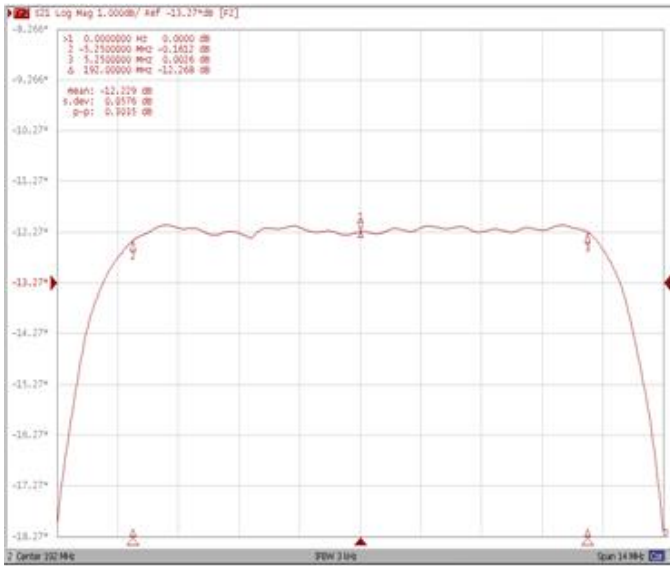
**Relative Attenuation**



**Frequency Response**

**Ripple Variation at Fo ±5.25MHz**

**Group Delay Variation at Fo ±5.25MHz**



**Smith Chart**

**Return Loss**

