

- 140.0 MHz IF SAW Filter / 13.70 MHz Bandwidth
- Revision 0: 03 Feb. 2012

Electrical Characteristics

MAXIMUM RATING				
PARAMETERS DESCRIPTION	UNIT	MINIMUM	TYPICAL	MAXIMUM
Operating Temperature Range	°C	-	25	-
Storage Temperature Range	°C	-40	-	85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) ⁽¹⁾	Ω	-	50	-
Load Impedance (single ended) ⁽¹⁾	Ω	-	50	-
Package type & size	V			
Length x Width	mm ²	-	13.3 x 6.5	-
Height	mm	-	-	1.8

ELECTRICAL SPECIFICATION				
PARAMETERS DESCRIPTION	UNIT	MINIMUM	TYPICAL	MAXIMUM
Center Frequency (Fo)	MHz	139.60	140.00	140.40
Insertion Loss at Fo	dB	-	9.00	11.00
Group Delay Variation at Fo ± 5.00 MHz	nsec	-	44	100
Absolute Delay at Fo	usec	-	0.98	-
Passband Ripple Variation at Fo ± 5.00 MHz	dB	-	0.50	1.00
Bandwidth at -1dB	MHz	13.20	13.70	-
Bandwidth at -3dB	MHz	-	15.05	-
Bandwidth at -40dB	MHz	-	18.45	19.00
Ultimate Rejection	dB	40	45	-
Relative Attenuation:				
Fo ±10.40MHz	dB	40	45	-
Temperature Coefficient	ppm/°C	-	-86	-

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.

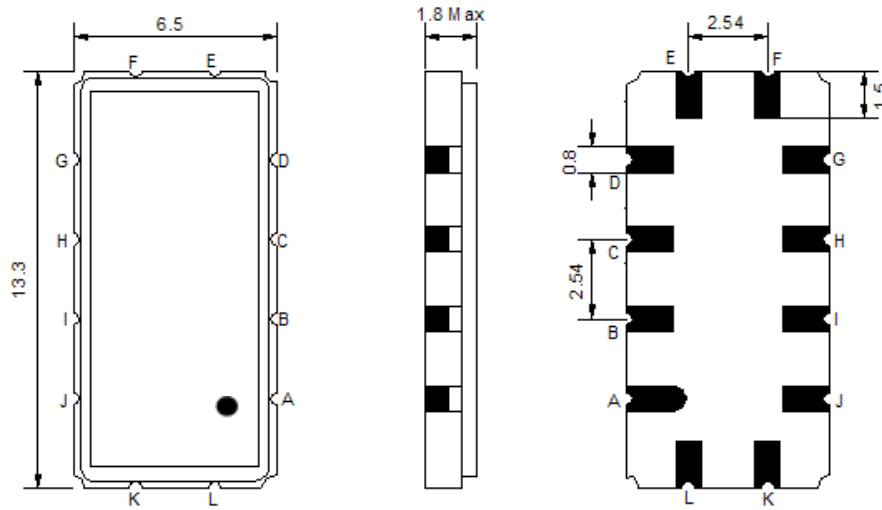
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PARAMETERS DESCRIPTION	UNIT	MINIMUM	TYPICAL	MAXIMUM
Operating Temperature Range	°C	-40	-	55
Storage Temperature Range	°C	-40	-	85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) ⁽¹⁾	Ω	-	50	-
Load Impedance (single ended) ⁽¹⁾	Ω	-	50	-
Package type & size	V			
Length x Width	mm ²	-	13.3 x 6.5	-
Height	mm	-	-	1.8

ELECTRICAL SPECIFICATION				
PARAMETERS DESCRIPTION	UNIT	MINIMUM	TYPICAL	MAXIMUM
Center Frequency (Fo)	MHz	-	140.00	-
Insertion Loss at Fo	dB	-	9.30	11.00
Group Delay Variation at Fo ± 5.00 MHz	nsec	-	50	100
Absolute Delay at Fo	usec	-	0.98	-
Passband Ripple Variation at Fo ± 5.00 MHz	dB	-	0.50	1.00
Bandwidth at -1dB	MHz	13.20	13.70	-
Bandwidth at -3dB	MHz	-	15.05	-
Bandwidth at -40dB	MHz	-	18.45	19.00
Ultimate Rejection	dB	40	45	-
Relative Attenuation:				
Fo ±10.40MHz	dB	-	33	-
Temperature Coefficient	ppm/°C	-	-86	-

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.

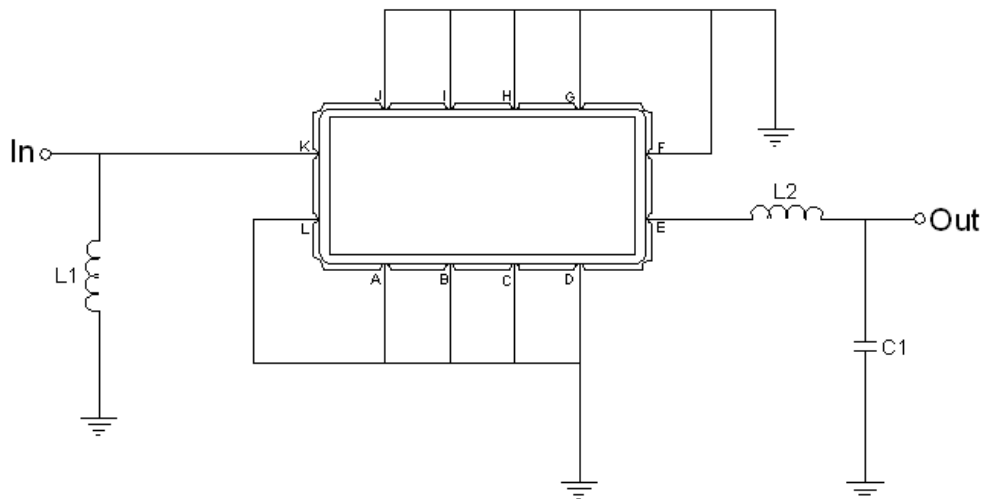
Package Dimensions



- ① **TRANSKO:** Brand
- ② **TL14013A:** Model Name
- ③ **X :** Date Code (Year)
- ④ **Y :** Date Code (Month)
- ⑤ **Z :** Date Code (Date)
- : Index Dot

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

Testing Environment



Test Fixture & Values	
Input	L1 = 39nH Q >40
Output	L2 = 47nH Q >40, C1=30pF
Source/Load Impedance	50 Ω

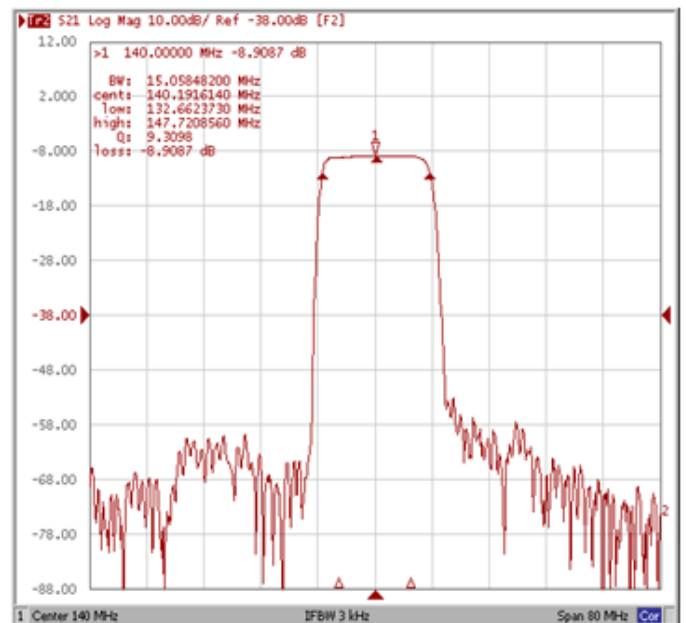
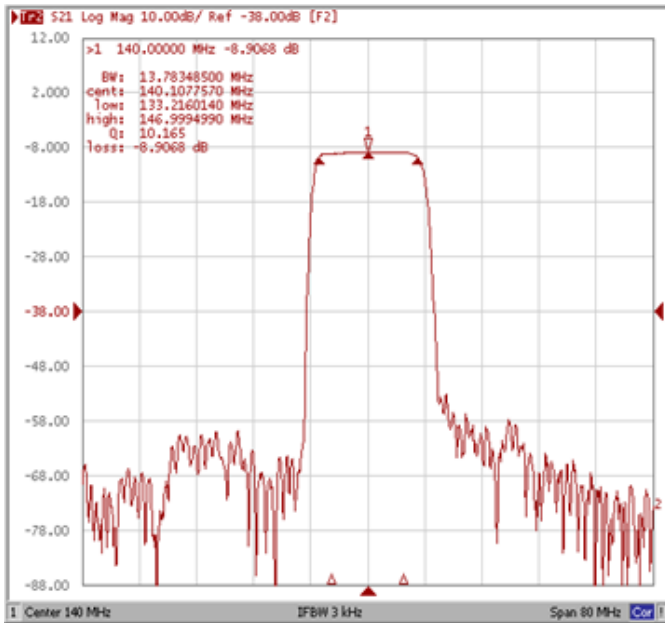
Frequency Characteristics

Frequency Response

Operating Temperature : +25 °C

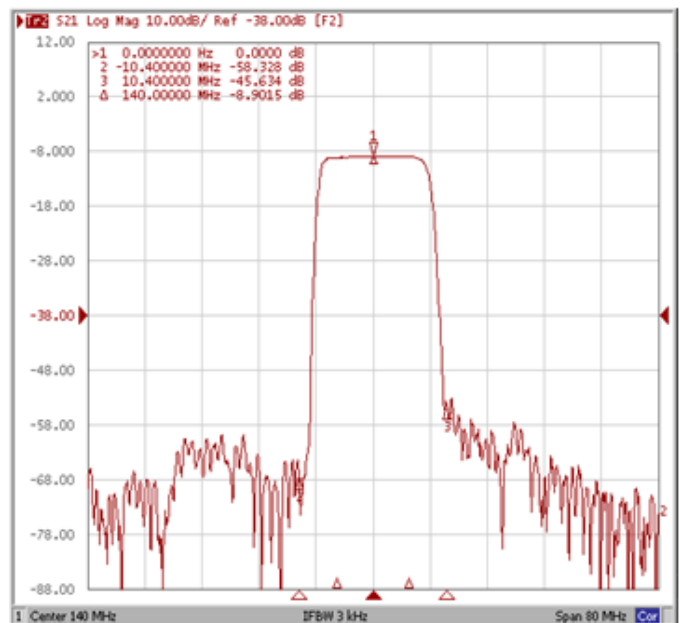
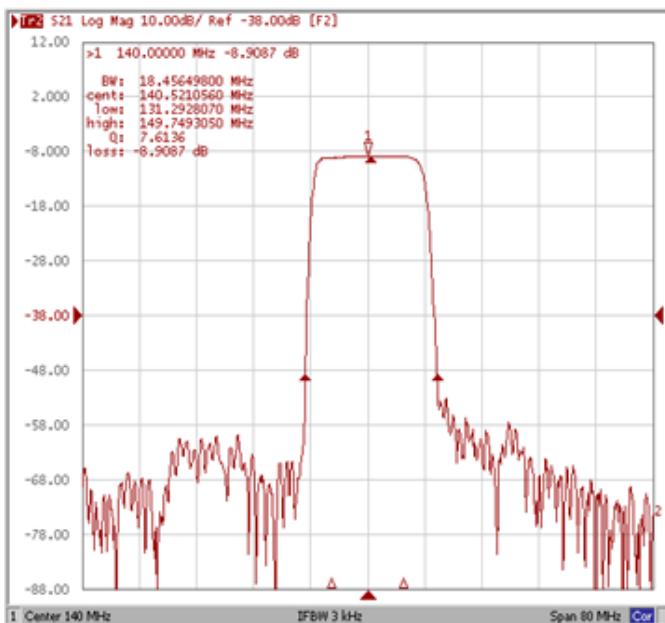
Bandwidth at -1.0 dB

Bandwidth at -3.0 dB



Bandwidth at -40.0 dB

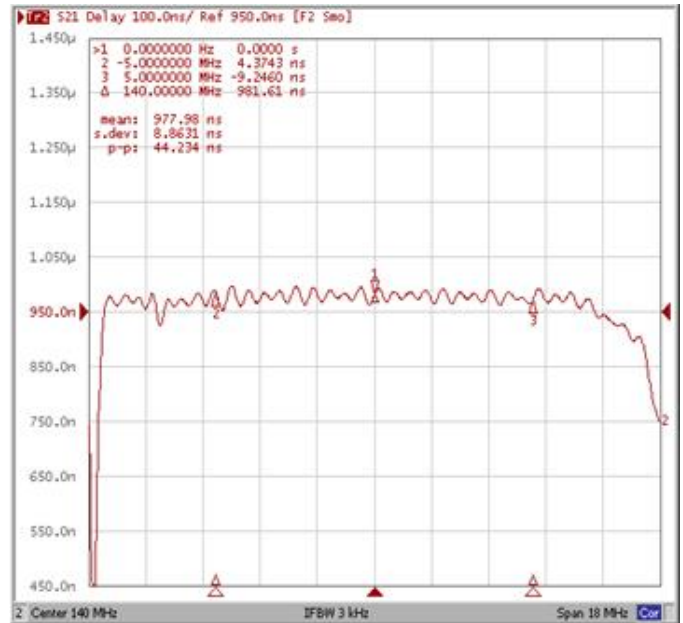
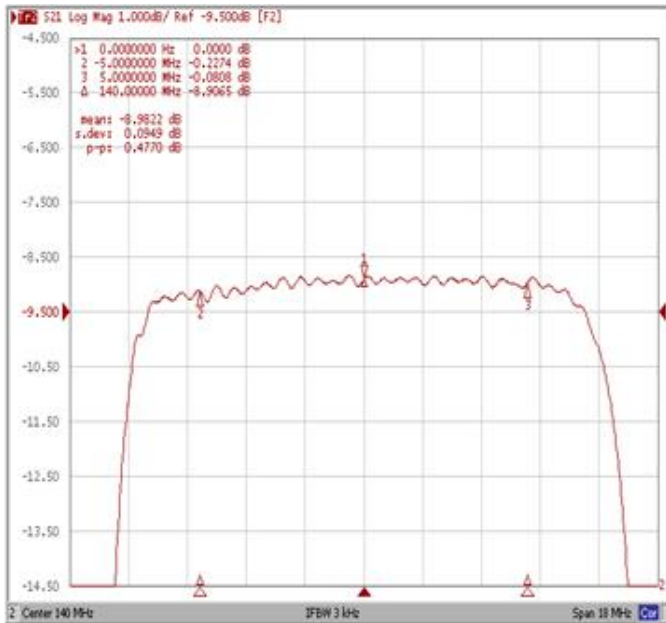
Relative Attenuation Fo±10.40MHz



Frequency Response

Ripple Variation Fo±5.00MHz

Group Delay Variation Fo±5.00MHz



Smith Chart

VSWR

