

NDK CONFIDENTIAL



Specification review result of 1538.5MHz SAW filter

CUSTOMER: ELTECH COMPONENT LTD INFINET

DESCRIPTION: Specification review result of 1538.5MHz SAW filter

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CHECKED BY: -----

APPROVED BY: T.Tsuda

ENGINEERING DEPT.
NDK SAW devices Co., Ltd.

Gentleman:

This is a specification review result of 1538.5MHz SAW filter.
Please confirm their contents.

Specifications

Maximum ratings

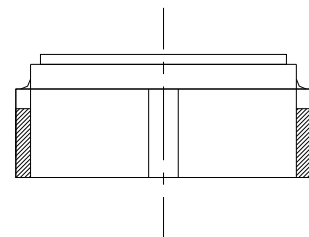
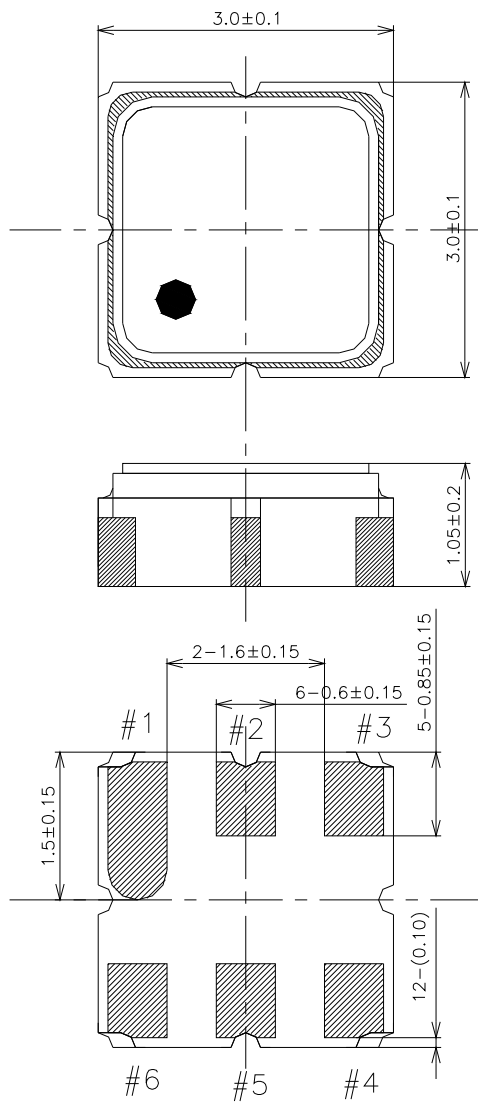
Parameter	Unit	Your request			Our proposal		
		Min.	Typ.	Max.	Min.	Typ.	Max.
Operating temperature	degC	-40	-	+85	-40	-	+85
Storage temperature	degC	-40	-	+85	-40	-	+85
Input power level (CW +55degC 50,000h)	dBm	-	-	+10	-	-	+10
TCf	ppm/K	-	-73	-	-	-45	-
Package SIZE	mm	3.0 x 3.0			3.0 x 3.0 x 1.05		
Terminating impedance	ohm	50			50		

Electrical Characteristics

Parameter	Unit	Your request			Our proposal (*1)			
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Model Name	-	TFS 1538			-			
Center Frequency (Fn)	MHz	1538.5			1538.5			
Maximum Insertion Loss (within 1518 MHz to 1559 MHz)	dB	-	2.9	3.5	-	2.3	3.5	
Amplitude Ripple (within 1518 MHz to 1559 MHz)	dB	-	0.7	1.5	-	0.8	1.5	
Group Delay Variation (within 1518 MHz to 1559 MHz)	ns	-	6	100	-	9.6	100	
Return Loss (within 1518 MHz to 1559 MHz)	dB	9	10.5	-	9	13	-	
Attenuation (Relative 0dB)								
1	1200 MHz to 1450 MHz	dB	30	-	-	30	37	-
2	1626 MHz to 1675 MHz	dB	30	-	-	30	41	-

Note : (*1) Our proposal is based on simulation values. These values may be changed after trial production.

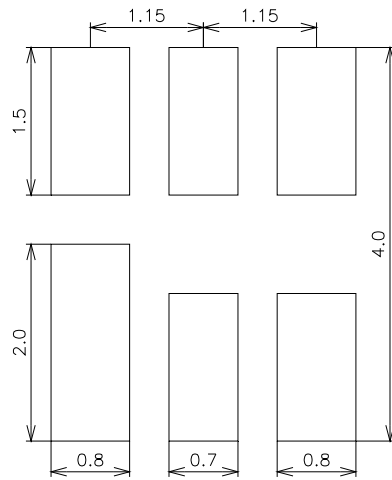
Package dimensions and pin connections



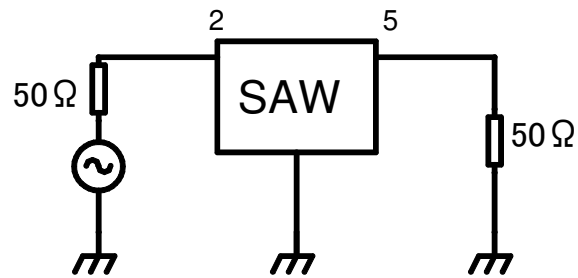
Terminal land connection	
2	INPUT
5	OUTPUT
1,3,4,6	GND

Unit [mm]
Tolerance ± 0.2 mm

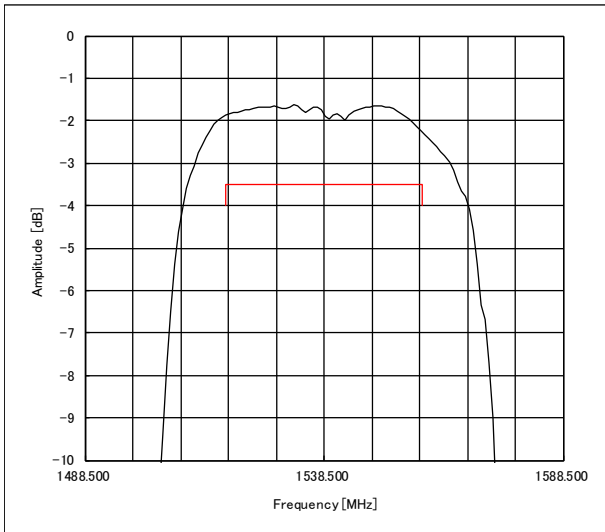
Land pattern (recommended)



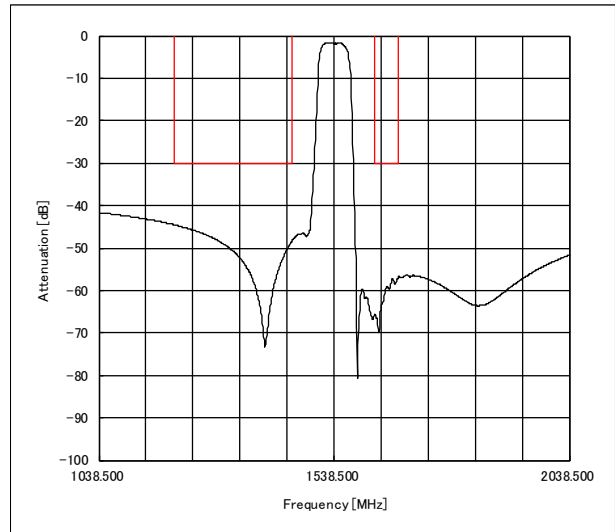
Matching networks



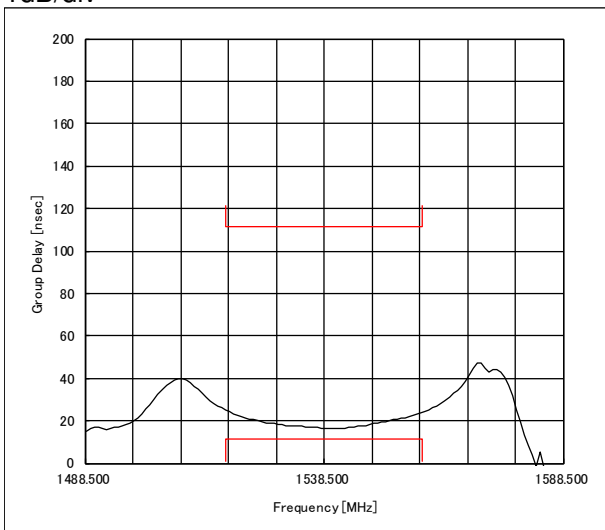
Filter characteristics (Simulation result)



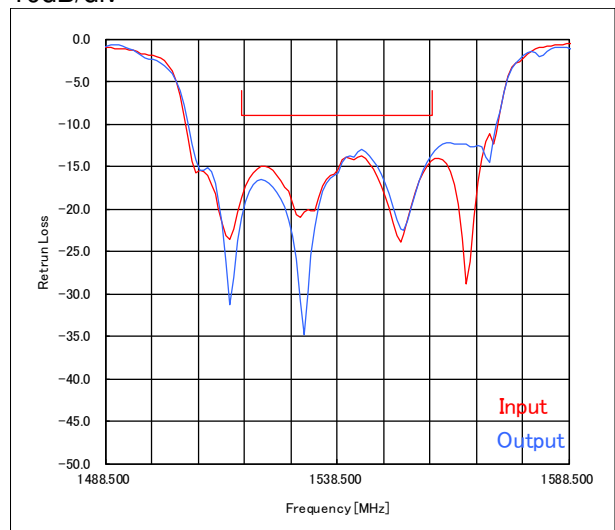
Pass band characteristics (Amplitude)
Center : 1538.5 MHz Span : 100 MHz
1dB/div



Out-of-band characteristics (Amplitude)
Center : 1538.5 MHz Span : 500MHz
10dB/div



Pass band characteristics (Group Delay)
Center : 1538.5 MHz Span : 100 MHz
20ns/div



Pass band characteristics (Return Loss)
Center : 1538.5 MHz Span : 100 MHz
5dB/div

* Red Line : Our Proposal