

# TMX T513

## SAW BANDPASS FILTER – BASE STATION - GSM-IF

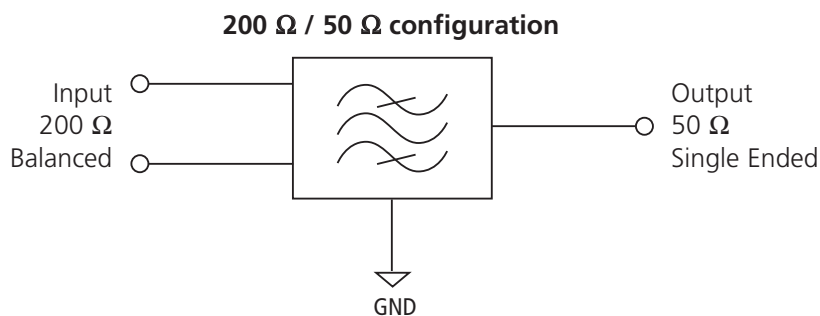
### Specification

Operating temperature range: [-10°C; +85°C]

		Minimum	Typical	Maximum
Source impedance (balanced)	$\Omega$		200 <sup>(2)</sup>	
Load impedance (single ended)	$\Omega$		50 <sup>(2)</sup>	
Center frequency $F_c$	MHz		174.2	
Bandwidth at -0.2 dB at 25°C	MHz	0.2	2.49	
Template on the amplitude, reference is loss at $F_c$				
from 23 MHz to 149 MHz	dB	60	70	
from 149 MHz to 160 MHz	dB	40	55	
from 160 MHz to 168 MHz	dB	20	30	
from 168 MHz to 169.5 MHz	dB	10	30	
from 178.5 MHz to 184 MHz	dB	10	11.5	
from 184 MHz to 195 MHz	dB	20	35	
from 195 MHz to 199 MHz	dB	40	55	
from 199 MHz to 234 MHz	dB	45	50	
from 234 MHz to 246 MHz	dB	35	40	
from 246 MHz to 326 MHz	dB	45	50	
from 326 MHz to 500 MHz	dB	40	50	
Insertion loss at $F_c$	dB		2.0	3.5
Amplitude variation within $F_c \pm 0.1$ MHz at 25°C <sup>(3)</sup>	dBp-p		0.1	0.2
Group delay variation within $F_c \pm 0.1$ MHz at 25°C	nsp-p		40	100
Absolute group delay at $F_c$	ns		280	600
Input and output return loss at $F_c$ at 25°C	dB	9.0		
Package type & size				
Length x Width	mm <sup>2</sup>		5.0 x 5.0	
Height	mm		1.6	1.8
Pin Out				
Input	2, 3	Output	7	
		Output Return	6	
Case Ground	4, 8	To Be Grounded	1, 4, 5, 6, 8	

**Notes :**

- (1) Typical values are nominal performances at room temperature
- (2) No matching circuit is required
- (3) The amplitude variation is defined as the maximum level – minimum level over the given bandwidth



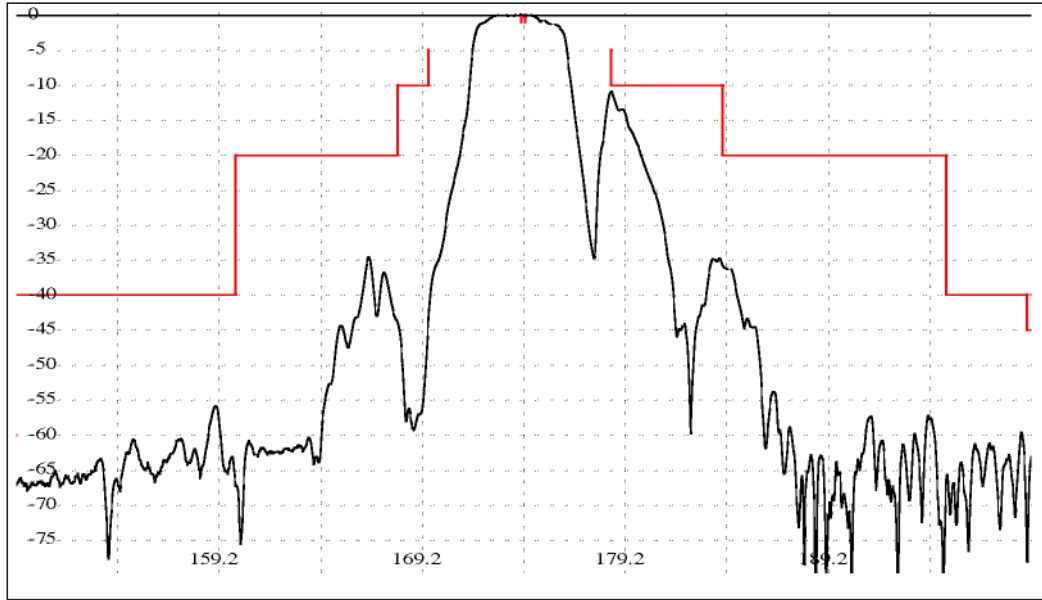
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## SAW BANDPASS FILTER – BASE STATION - GSM-IF

### Specification TYPICAL S21 RESPONSE

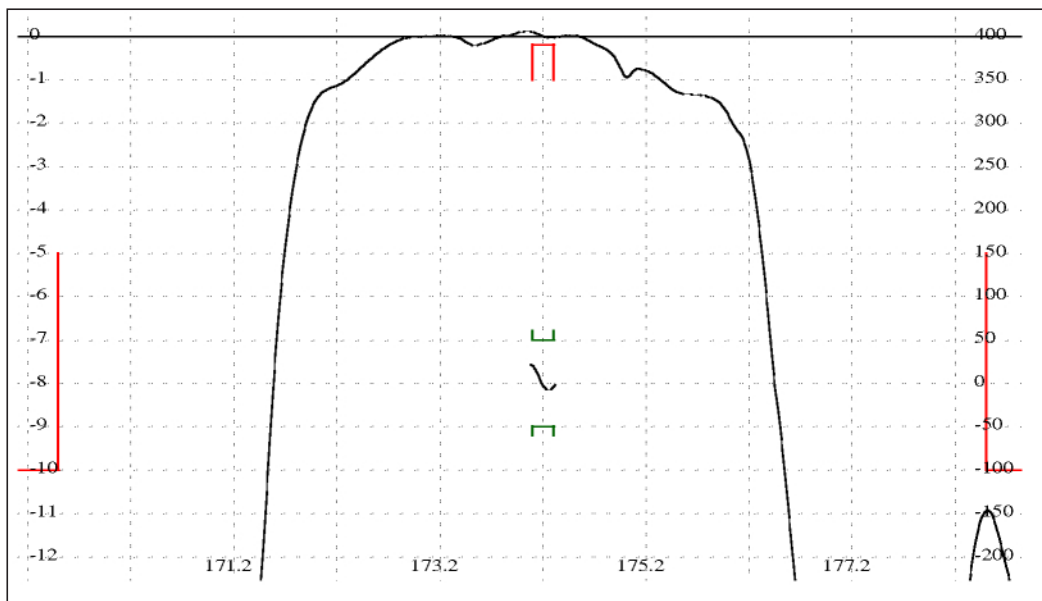
Center frequency = 174.2 MHz  
 Loss reference = 2.68 dB  
 Delay reference = 0.29  $\mu$ s  
 Phase reference = 11.73 deg

Scale frequency = 5 MHz/div  
 Scale amplitude = 5 dB/div



Center frequency = 174.2 MHz  
 Loss reference = 2.68 dB  
 Delay reference = 0.29  $\mu$ s  
 Phase reference = 11.73 deg

Scale frequency = 1 MHz/div  
 Scale amplitude = 1 dB/div  
 Scale phase = 50 deg/div



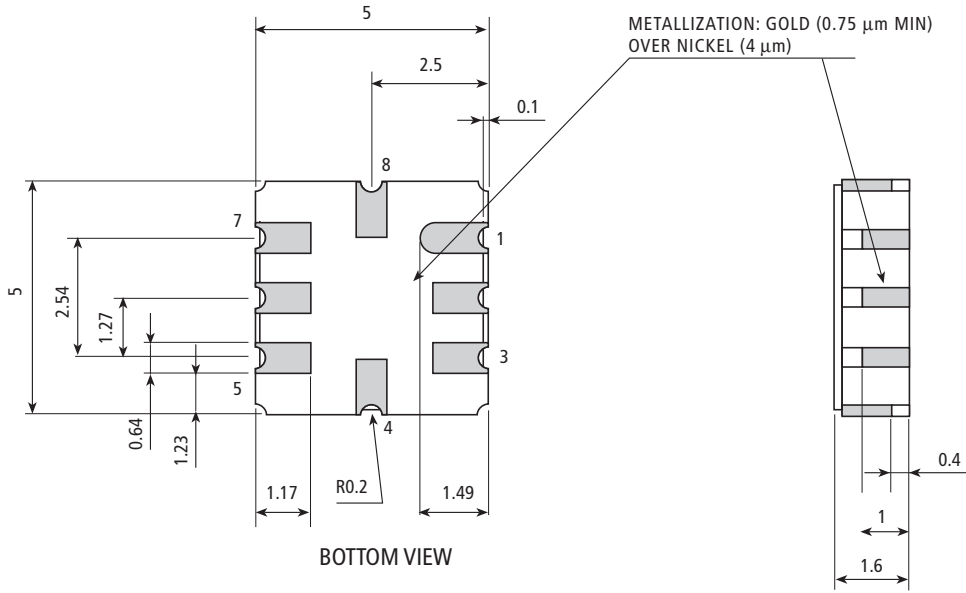
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## SAW BANDPASS FILTER – BASE STATION - GSM-IF

### Specification

### PACKAGE

All dimensions are in mm



	A	0.1mm/25.4mm
General Tolerance		±0.2mm