



Features

- ✧ For IF SAW filter
- ✧ Single-ended operation
- ✧ Ceramic Surface Mount Package
- ✧ Small size
- ✧ RoHS compliant (2002/95/EC), Pb-free

Specifications

Parameter	Unit	Minimum	Typical	Maximum
Center Frequency	MHz	232.9	233	233.1
Insertion Loss	dB	-	23.6	25
1 dB Bandwidth	MHz	-	4.08	-
1.5 dB Bandwidth	MHz	4	4.28	-
3 dB Bandwidth	MHz	-	4.68	-
40 dB Bandwidth	MHz	-	6.78	7
Passband Variation	dB	-	0.4	1
Absolute Delay	usec	-	1.42	-
Ultimate Rejection	dB	45	48	-
Material Temperature coefficient	KHz/°C	0.23		
Substrate Material	-	Qz		
Ambient Temperature	°C	25		
DC Voltage	V	0		
Input Power	dBm	-	-	10
ESD Class	-	1C		
Package Size	SMD13.3*6.5			

Notes:

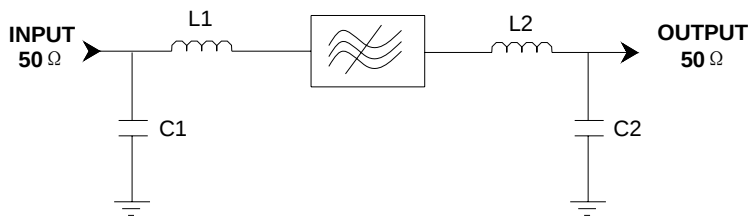
1. All specifications are based on the test circuit shown;
2. In production, all specifications are measured by Agilent Network analyzer and full 2 port calibration at room temperature;
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances;
4. This is the optimum impedance in order to achieve the performance show.



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Part Number	LBS23302		
Rev. Date	2010-09-09		
Ver.	1.0	Page	1 / 3

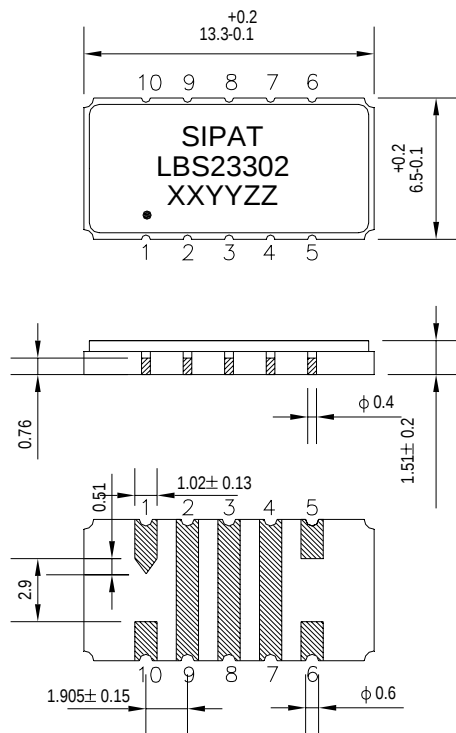
Matching Configuration



L1=56nH L2=47nH
C1=18pF C2=15pF
Source/Load Impedance=50 ohm

Notes - Component values may change depending
on board layout.

Package Dimension



Pad Configuration:

Input: 10
Output: 5
Ground: All Others

Marking Configuration:

- 1) •: Pad Number 1 Index
- 2) SIPAT: Manufacturer Name
- 3) LBS23302: Part Number
- 4) XXYY: Date(Year/month)
- 5) ZZ: Identified Code

Package: SMD13.3*6.5

Unit: mm



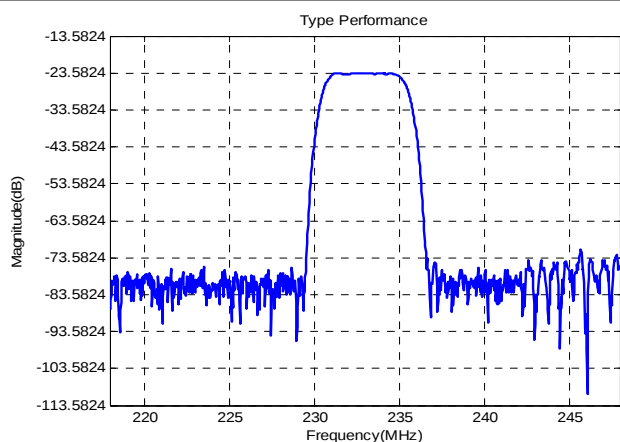
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Typical Performance

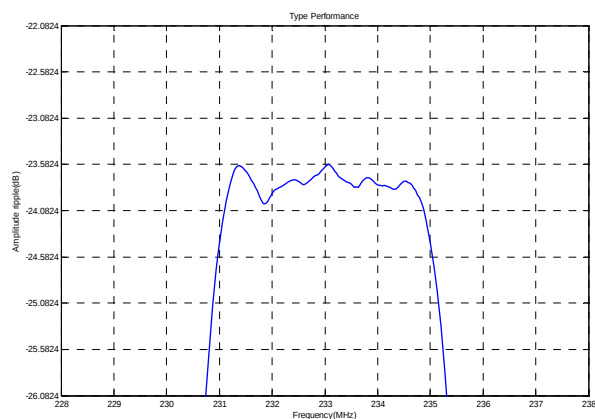
Frequency Response



Horizontal: 5MHz/Div

Vertical: 10dB/Div

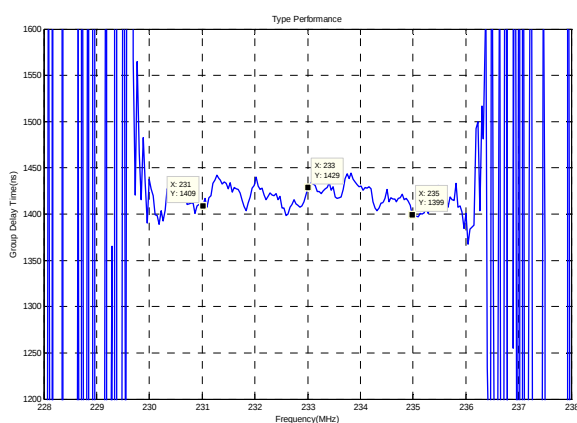
Passband Response



Horizontal: 1MHz/Div

Vertical: 0.5dB/Div

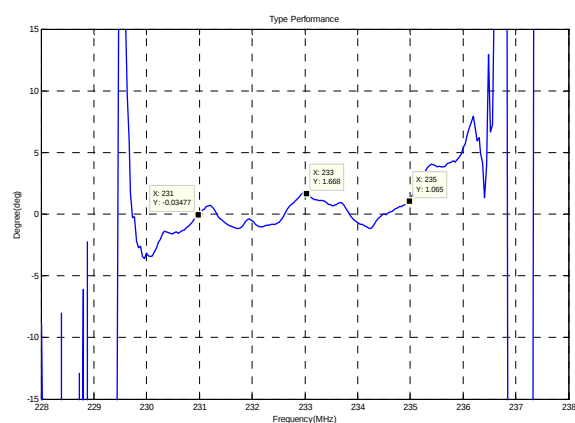
Group Delay Variation($f_0 \pm 2\text{MHz}$)



Horizontal: 1MHz/Div

Vertical: 50ns/Div

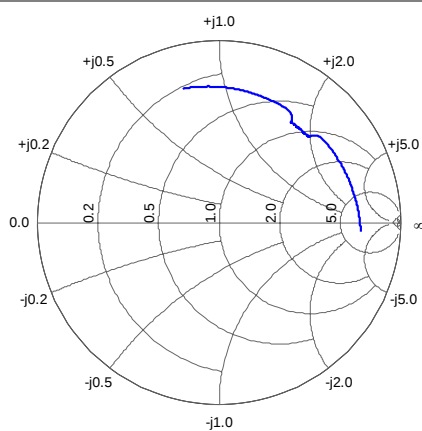
Phase Linearity($f_0 \pm 2\text{MHz}$)



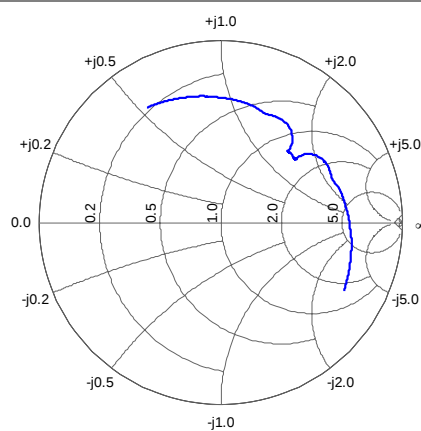
Horizontal: 1MHz/Div

Vertical: 5deg/Div

Smith Chart S11



Smith Chart S22



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Page 3/3