



### Features

- ◇ For IF SAW filter
- ◇ High attenuation
- ◇ Single-ended operation
- ◇ Dual In-line Package
- ◇ RoHS compliant (2002/95/EC), Pb-free

### Specifications

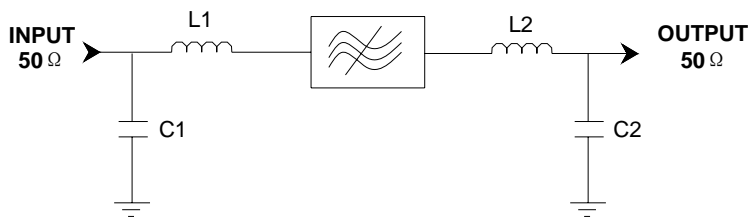
Parameter	Unit	Minimum	Typical	Maximum	
Center Frequency	MHz	139.85	140	140.15	
Insertion Loss	dB	-	26.6	30	
3 dB Bandwidth	MHz	6	6.06	-	
Passband Variation	dB	-	0.7	1.5	
Absolute Delay	usec	-	3.33	4	
Ultimate Rejection	$f_0 \pm 3.45\text{MHz}$	dB	35	40	-
	$f_0 \pm 3.65\text{MHz}$	dB	45	51	-
	$f_0 \pm 4.05\text{MHz}$	dB	48	56	-
	$f_0 \pm 8.05\text{MHz}$	dB	50	55	-
	$f_0 \pm 18.05\text{MHz}$	dB	52	64	-
Material Temperature coefficient	KHz/°C	0.14			
Substrate Material	-	Qz			
Ambient Temperature	°C	25			
Operating Temperature Range	°C	-40	-	+85	
Storage Temperature Range	°C	-45	-	+105	
DC Voltage	V	0			
Input Power	dBm	-	-	10	
ESD Class	-	1A			
Package Size	DIP3512 (35.0x12.8x4.7mm <sup>3</sup> )				

#### 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.

	<b>SIPAT Co., Ltd.</b> ( CETC No.26 Research Institute ) #14 Nanping Huayuan Road, Chongqing, China, 400060	Part Number	LBS140A11	
		Rev. Date	2010-11-26	
		Ver.	1.1	Page 1/3

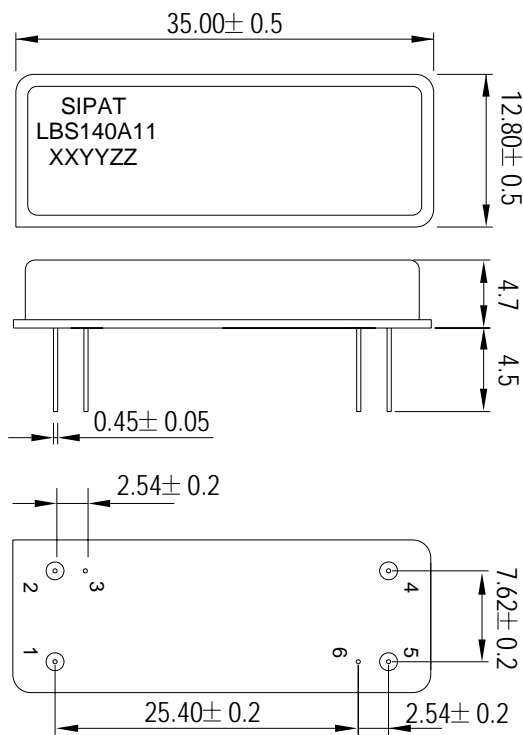
### Matching Configuration



**L1=120nH L2=82nH**  
**C1=39pF C2=47pF**  
**Source/Load Impedance=50 ohm**

Notes - Component values may change depending  
on board layout.

### Package Dimension



#### Pad Configuration:

Input 1  
Output 5  
Ground All Others

#### Marking Configuration:

- 1) SIPAT: Manufacturer Name
- 2) LBS140A11: Part Number
- 3) XXYY: Date(Year/month)
- 4) ZZ: Identified Code

Package: DIP3512

Unit: mm



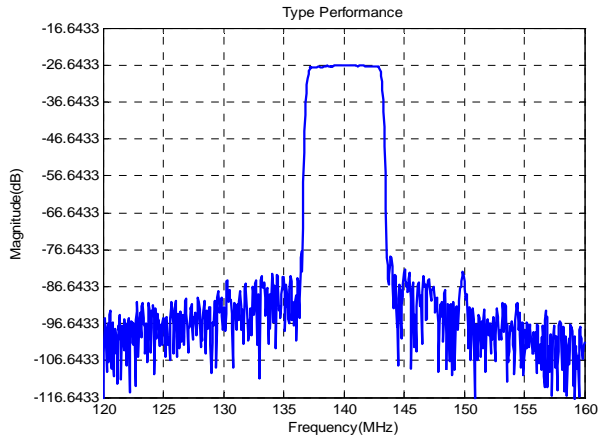
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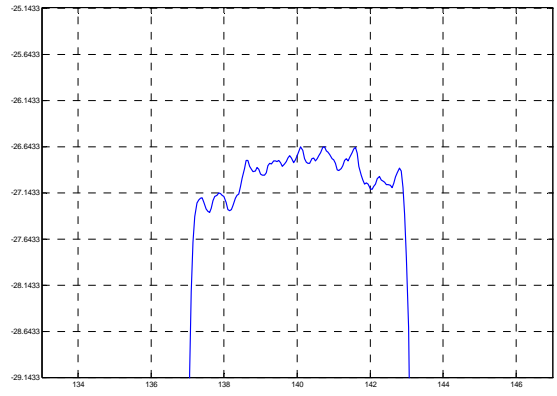
Typical Performance

Frequency Respond



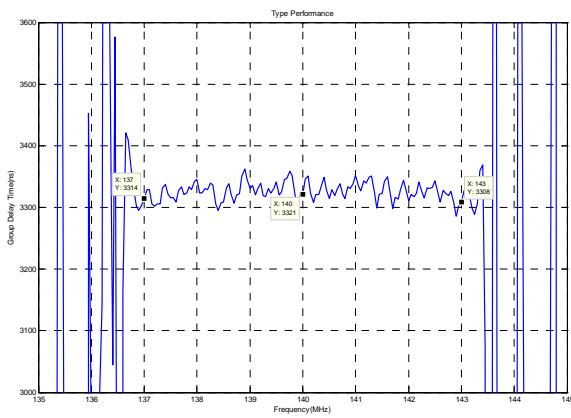
Horizontal: 5MHz/Div Vertical: 10dB/Div

Passband Respond



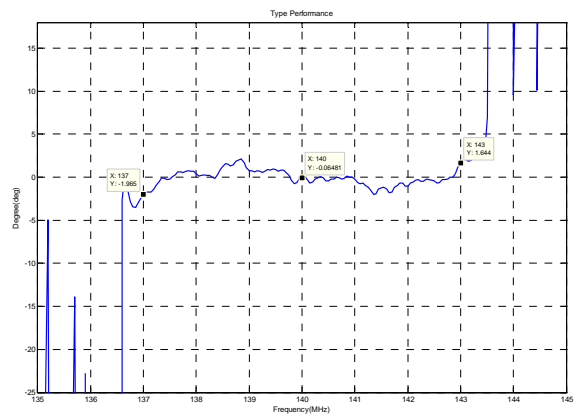
Horizontal: 2MHz/Div Vertical: 0.5dB/Div

Group Delay Variation( $f_0 \pm 3\text{MHz}$ )



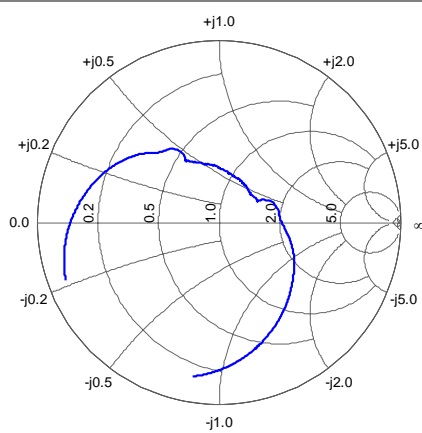
Horizontal: 1MHz/Div Vertical: 100ns/Div

Phase Linearity( $f_0 \pm 3\text{MHz}$ )

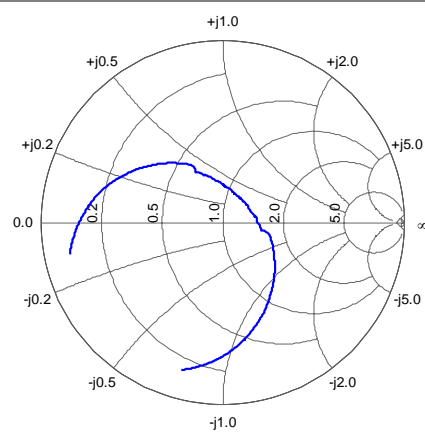


Horizontal: 1MHz/Div Vertical: 5deg/Div

Smith Chart S11



Smith Chart S22



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