300MHz Low-loss SAW Filter
45MHz Bandwidth

Part Number: SP30001

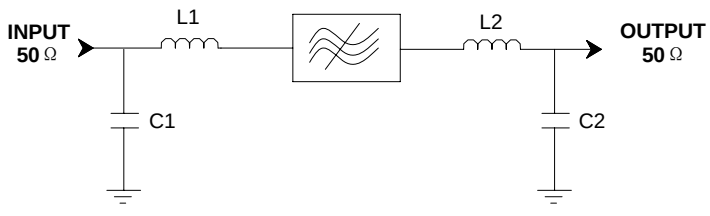
Specifications

Parameter		Unit	Minimum	Typical	Maximum
Center Frequency		MHz	-	300	-
Insertion Loss(f0±20MHz)		dB	-	16.5	18
1.5 dB Bandwidth		MHz	40	44.68	-
3 dB Bandwidth		MHz	45	45.54	-
35 dB Bandwidth		MHz	-	51.2	56
Passband Variation(f0±20MHz)		dB	-	0.7	1.5
Absolute Delay		usec	-	0.6	-
Group Delay Variation(f0±20MHz)		nsec	-	50	150
Ultimate Rejection	100～270MHz	dB	30	48	-
	330～500MHz	dB	25	29	-
	500～1000MHz	dB	30	35	
Material Temperature coefficient		KHz/°C	-28.2		
Ambient Temperature		°C	25		
Package Size		SMD7.0*5.0			

Notes:

1. All specifications are based on the test circuit shown
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over 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

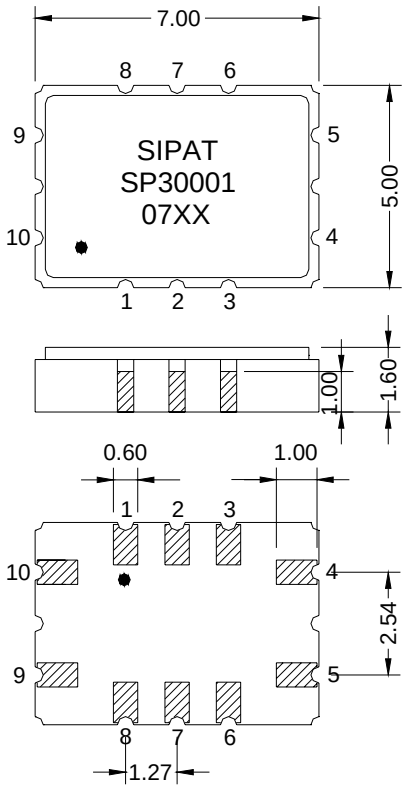
Matching Configuration



L1=18nH L2=22nH
C1=15pF C2=18pF
Source/Load Impedance=50 ohm

Notes - Component values may change depending on board layout.

Package Dimension



1) ·: Pad Number 1 Index
2) SIPAT: Manufacturer name
3) SP30001: Part Number
4) 07XX: Date Code

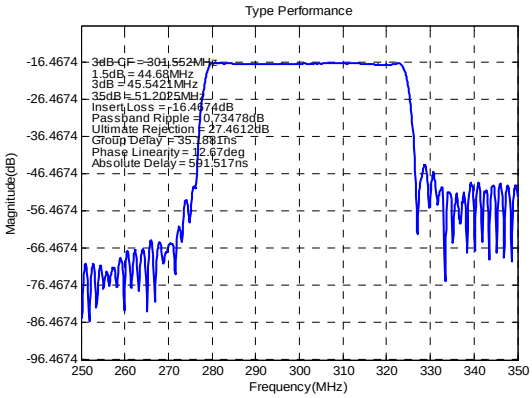
Input	9
Output	4
Ground	1,2,3,5,6,7,8,10

Package: SMD7.0*5.0

Unit: mm

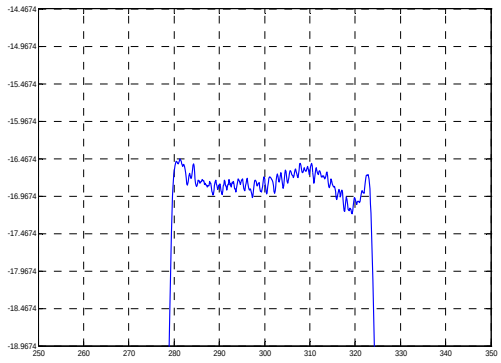
Typical Performance

Frequency Respond



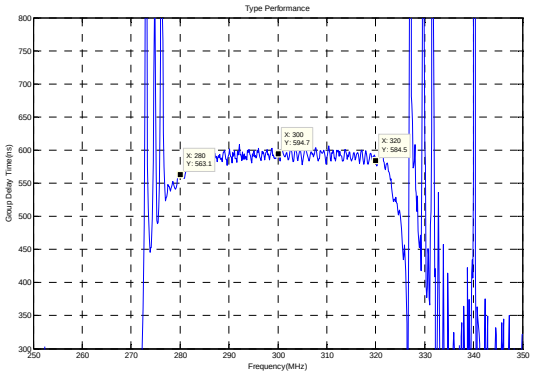
Horizontal: 10MHz/Div Vertical: 10dB/Div

Passband Respond



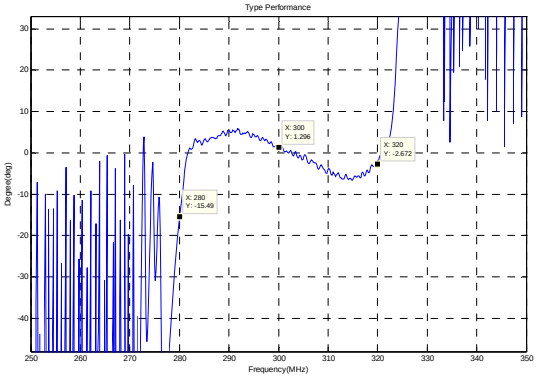
Horizontal: 10MHz/Div Vertical: 0.5dB/Div

Group Delay Variation(f0±20MHz)



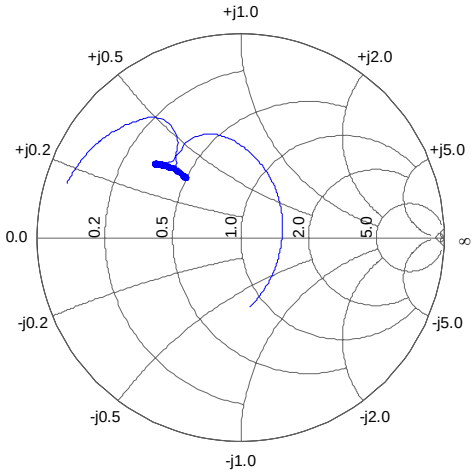
Horizontal: 10MHz/Div Vertical: 50ns/Div

Phase Linearity(f0±20MHz)

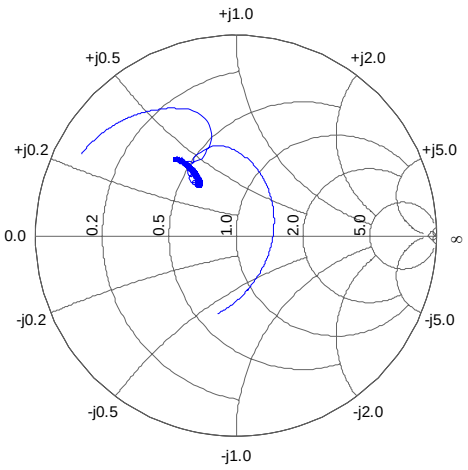


Horizontal: 10MHz/Div Vertical: 10deg/Div

Smith Chart S11



Smith Chart S22



Maximum Ratings		
Operating Temperature Range	°C	[-40°C;+85°C]
Storage Temperature Range	°C	[-40°C;+105°C]
DC Voltage	V	0
Input Power	dBm	10 max
ESD Class		1