400MHz Low-loss SAW Filter
45MHz Bandwidth

Part Number: SP40001

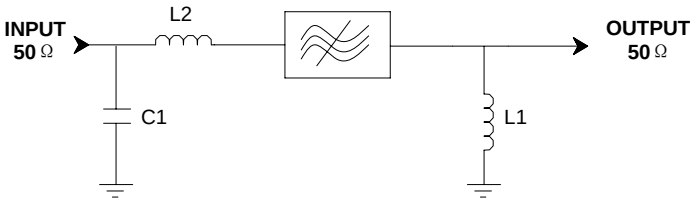
Specifications

Parameter		Unit	Minimum	Typical	Maximum
Center Frequency		MHz	-	400	-
Insertion Loss(f0±20MHz)		dB	-	16	18
1.5 dB Bandwidth		MHz	40	45.02	-
3 dB Bandwidth		MHz	45	46.25	-
35 dB Bandwidth		MHz	-	53.8	56
Passband Variation(f0±20MHz)		dB	-	0.8	1.5
Absolute Delay		usec	-	0.44	-
Group Delay Variation(f0±20MHz)		nsec	-	40	150
Ultimate Rejection	1～370MHz	dB	30	35	-
	430～500MHz	dB	30	35	-
	500～1000MHz	dB	30	38	
Material Temperature coefficient		KHz/°C	-37.6		
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



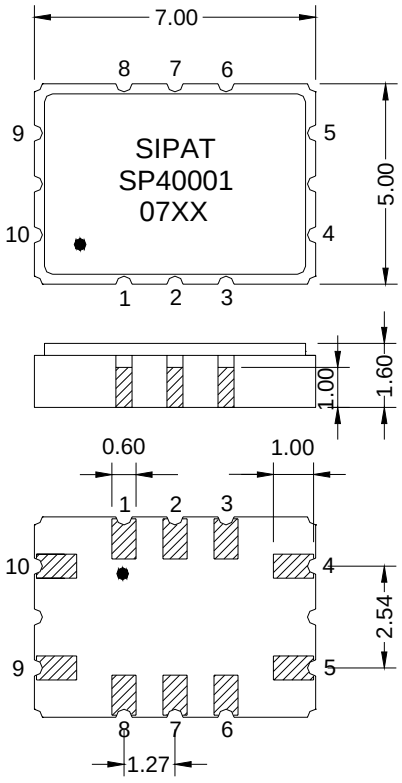
L1=L2=10nH

C1=6.8pF

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) SP40001: Part Number
4) 07XX: Date Code

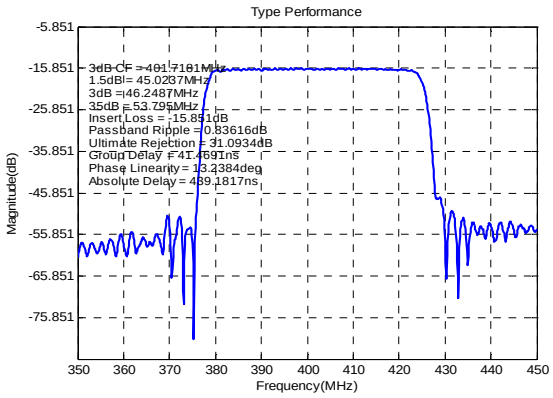
Input	9
Output	4
Ground	1,2,3,5,6,7,8,10

Package: SMD7.0*5.0

Unit: mm

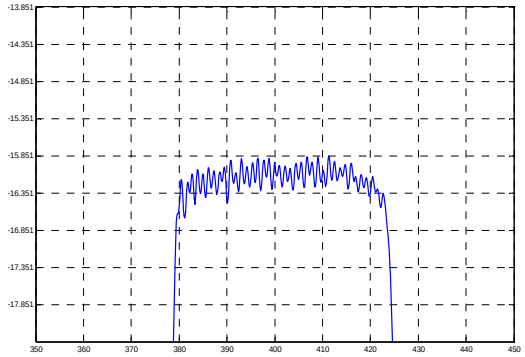
Typical Performance

Frequency Respond



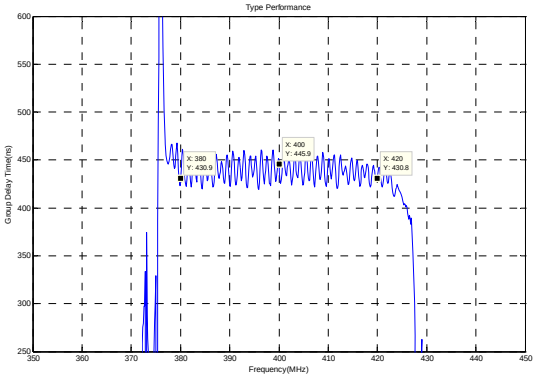
Horizontal: 10MHz/Div Vertical: 10dB/Div

Passband Respond



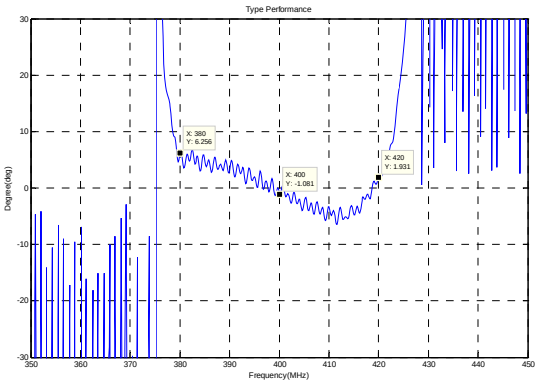
Horizontal: 10MHz/Div Vertical: 0.5dB/Div

Group Delay Variation(f0±20MHz)



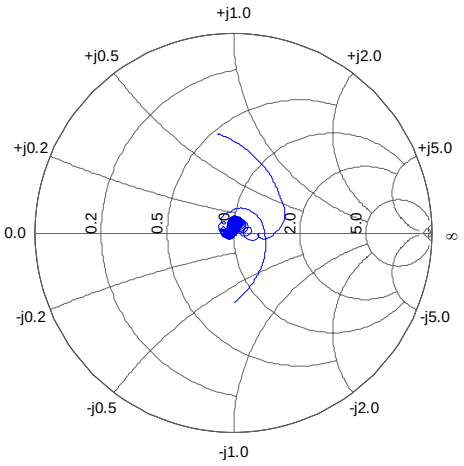
Horizontal: 10MHz/Div Vertical: 50ns/Div

Phase Linearity(f0±20MHz)

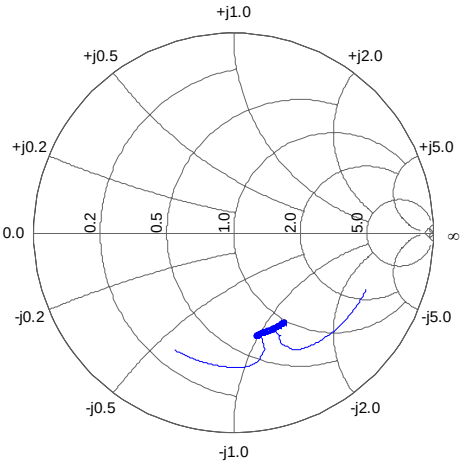


Horizontal: 10MHz/Div Vertical: 10deg/Div

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