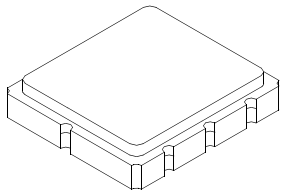
muRata
INNOVATOR IN ELECTRONICS

SF1174B

374.00 MHz SAW Filter

- ***Designed for WLAN IF Applications***
- ***Low Insertion Loss***
- ***5.0 x 5.0 x 1.7 mm Suface-Mount Case***
- ***Differential or Single Ended Input and Output***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM5050-8

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any Two Terminals	30	VDC
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-10 to +85	°C
Storage Temperature Range	-40 to +85	°C
Suitable for lead-free soldering - Maximum Soldering Profile	260°C for 30 s	

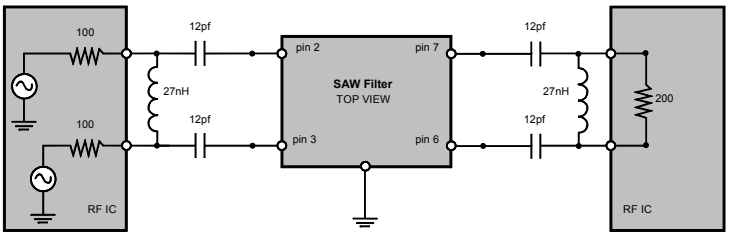
Electrical Characteristics

Characteristic		Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency		f_C	1		374.000		MHz
Passband	Insertion Loss at fc	IL			8.7	10.0	dB
	3 dB Passband	BW_3	1, 2	17	23		MHz
	Amplitude Ripple over fc ±7.0 MHz				0.8	1.0	dB_{P-P}
	Group Delay Variation over fc ±7.0	GDV			61	100	ns_{P-P}
Rejection	fc -100 to fc -33 MHz		1, 2, 3	45	54		dB
	fc -33 to fc -22 MHz			40	53		
	fc -22 to fc -16.5 MHz			30	40		
	fc +16.5 to fc +22 MHz			30	44		
	fc +22 to fc +43 MHz			35	48		
	fc +43 to fc +100 MHz			40	49		
Operating Temperature Range		T_A	1	-10		+85	°C

Differential Input / Output Impedance Match	External L-C
Case Style	SM5050-8 5 X 5 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week, S=shift)	447, YYWWS

Electrical Connections

Connection	Terminals
Port 1 Hot	2
Port 1 Gnd Return	3
Port 2 Hot	6
Port 2 Gnd Return	7
Case Ground	All others



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

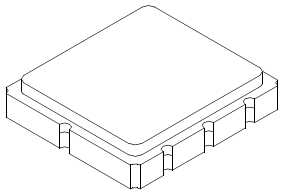
NOTES:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

SM5050-8 Case

8-Terminal Ceramic Surface-Mount Case

5.0 X 5.0 mm Nominal Footprint



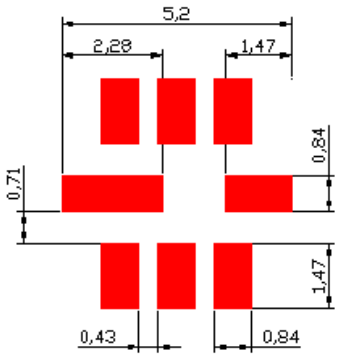
Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.8	5.0	5.2		0.1968	
B	4.8	5.0	5.2		0.1968	
C			1.7			0.0669
D		2.08			0.0818	
E		1.17			0.046	
F		0.64			0.0252	
G	2.39	2.54	2.69		0.100	

Electrical Connections

Connection		Terminals
Port 1	Differential Input	2,3
Port 2	Differential Output	6,7
	Ground	All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**
Dot indicates Pin 1		

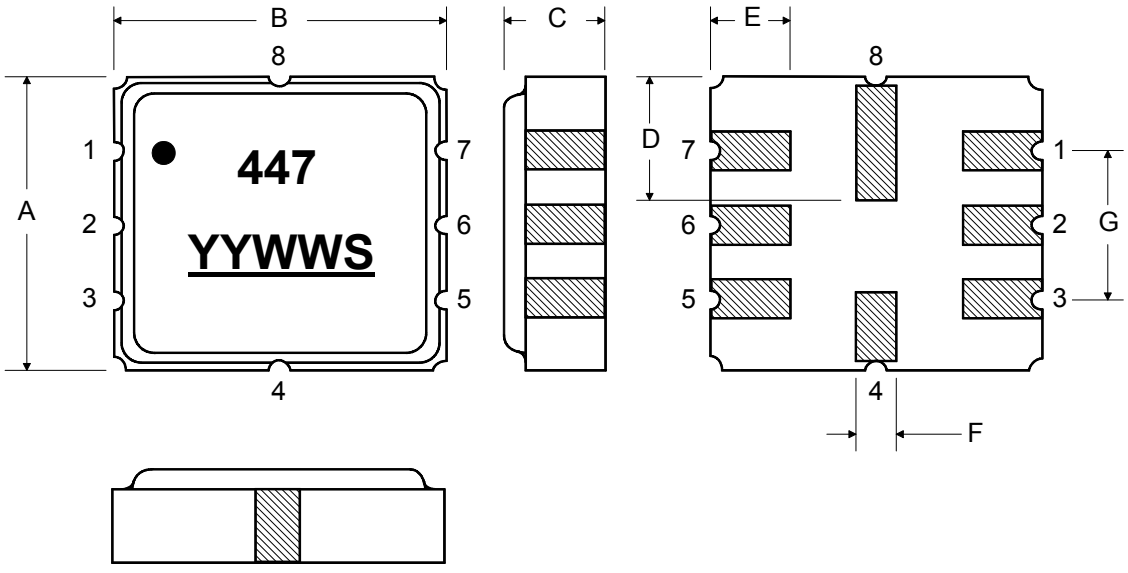
PCB FOOTPRINT



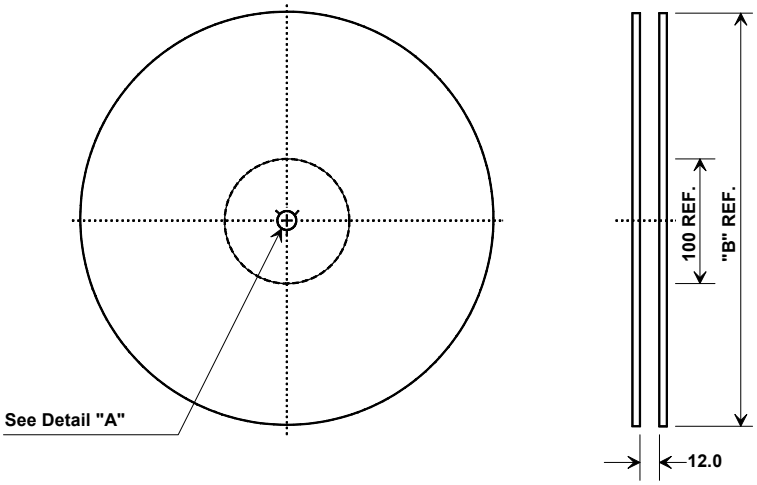
Materials	
Solder Pad Termination	Au plating 30 - 60 µnches (76.2-152 µM) over 80-200 uInches (203-508 µM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phospho-rus) 100-200 µInches Thick
Body	Al_2O_3 Ceramic
Pb Free	

TOP VIEW

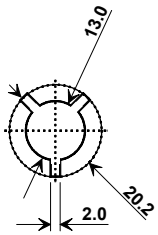
BOTTOM VIEW



Tape and Reel Specifications

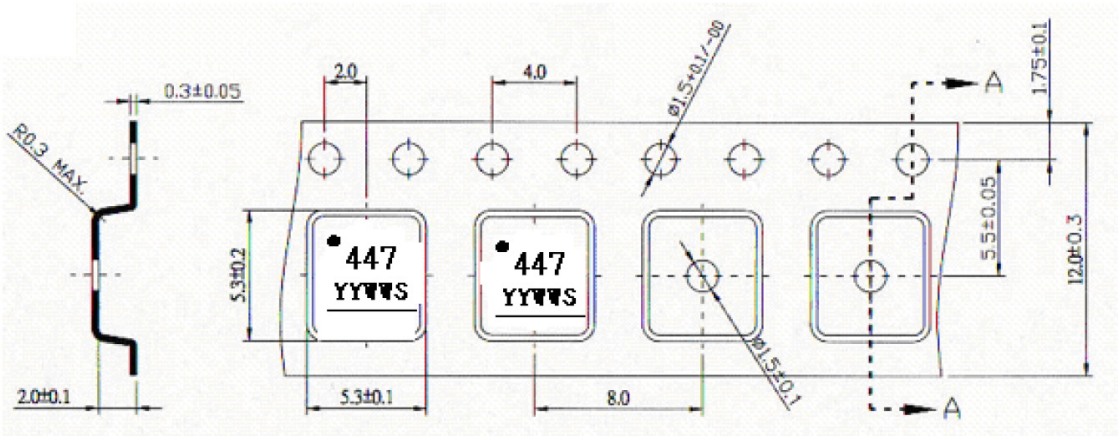


"B " Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	5.3 mm
Bo	5.3 mm
Ko	2.0 mm
Pitch	8.0 mm
W	12.0 mm



USER DIRECTION OF FEED