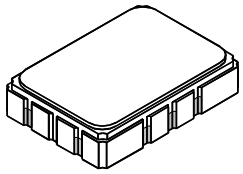
Preliminary

RFM products are now Murata products.

SF2097B

456 MHz SAW Filter

- ***Miniature UHF SAW Filter***
- ***Steep Passband to Stopband Transition***
- ***Hermetic 5 X 7 mm Surface Mount Case***
- ***Complies with Directive 2002/95/EC (RoHS)***



SMP-03

Absolute Maximum Ratings

Rating	Value	Units
Incident Power in Passband	+10	dBm
DC Voltage on any Non-ground Terminal	30	VDC
Operating Temperature Range	-40 to +80	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Soldering Profile, 5 Cycles Maximum	265 °C for 10 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F_C			456		MHz
Insertion Loss	IL				13	dB
1 dB Bandwidth	BW_1		2.45	2.55		MHz
3 dB Bandwidth	BW_3			3.00		MHz
Amplitude Ripple, 454.725 to 457.275 MHz				1.0	1.5	dB_{P-P}
Group Delay Ripple, 454.725 to 457.275 MHz				225		ns_{P-P}
40 dB Bandwidth	BW_{40}			6.7	7.0	MHz
Attenuation Relative to minimum IL:						dB
456 ±3 MHz				30		
456 ±30 MHz				45		
Source Impedance, Balanced				50		ohm
Load Impedance, Balanced				50		ohm

Case Style	SMP-03 5 x 7 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) See note 3	RFM SF2097B YWWS

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

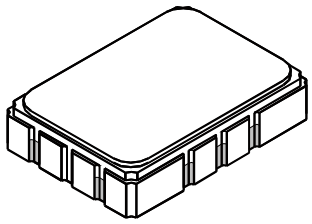
NOTES:

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. A dB offset exists for Murata because of the loss introduced by using transformers on the Input and Output.
2. 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.
3. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
4. The design, manufacturing process, and specifications of this filter are subject to change.
5. 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.
6. US and international patents may apply.
7. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

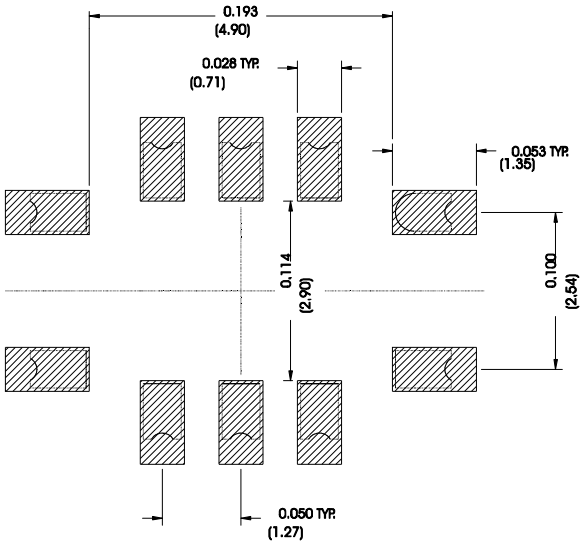
5 x 7 mm Nominal Footprint



Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C		1.65	2.00		0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	0.87	1.0	1.13	0.034	0.039	0.044
K	4.87	5.00	5.13	0.192	0.197	0.202
P	2.87	3.00	3.13	0.113	0.118	0.123

Recommended PCB Footprint

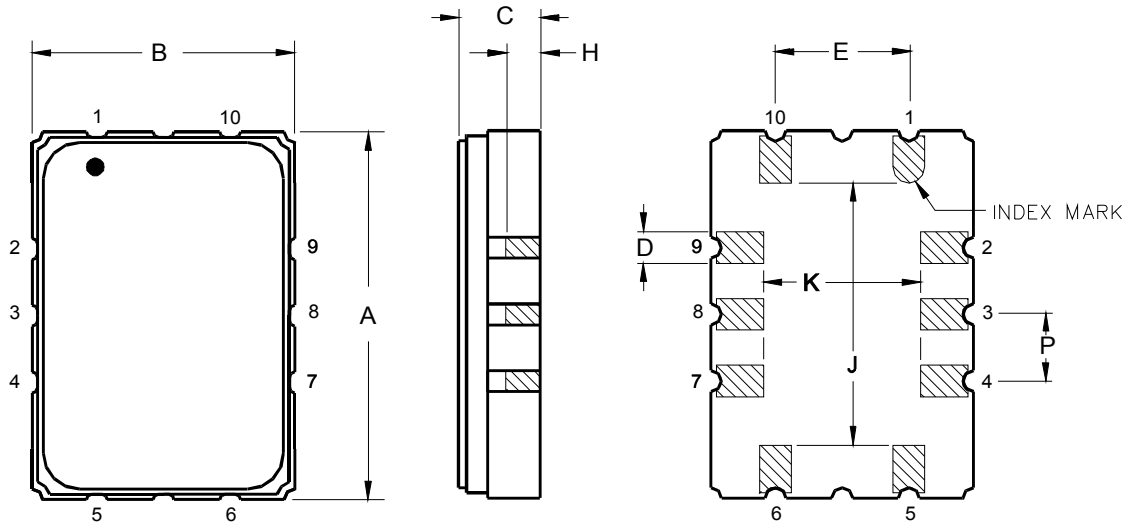


Electrical Connections

Connection		Terminals
Port 1	Balanced Input	1
	Balanced Input	10
Port 2	Balanced Output	5
	Balanced Output	6
	Ground	All others

Case Materials

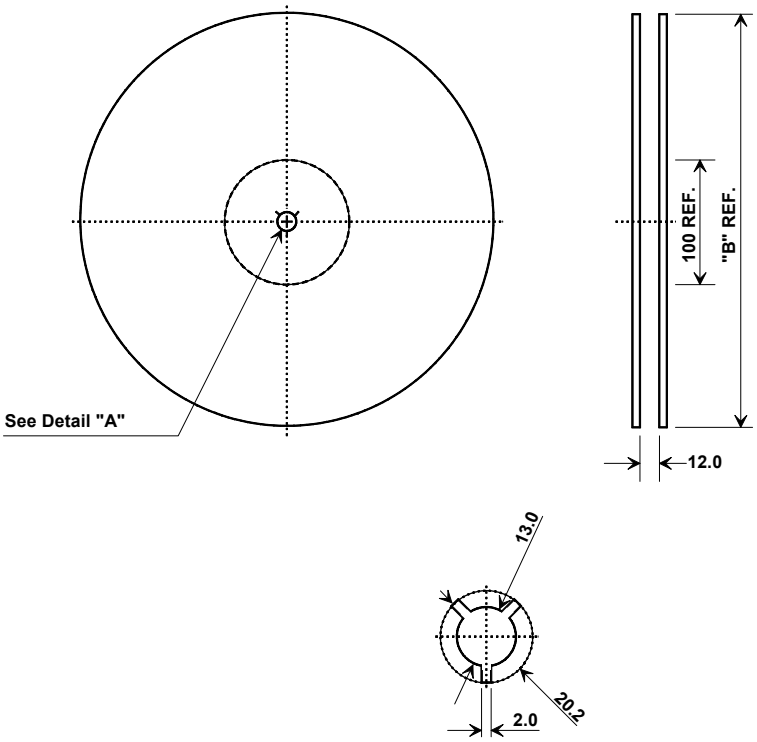
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	



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	9.4 mm
Bo	7.4 mm
Ko	2.0 mm
Pitch	8.0 mm
W	16.0 mm