

- **Designed for SDARS IF Receiver**
- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Differential or Single Ended Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**

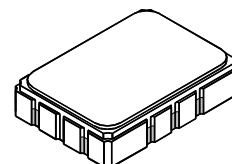


Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Max Soldering Profile	265°C for 10 s	

SF2037B-3

**76.500 MHz
SAW Filter**



SMP-03-S

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_c	1		76.500		MHz
Passband Insertion Loss	IL	1		10.0	12.0	dB
1dB Passband	BW ₁	1	3.8	4.1		MHz
15dB Bandwidth	BW ₁₅	1		6.7	6.8	MHz
30dB Bandwidth	BW ₃₀	1		7.7	7.8	MHz
Amplitude Ripple over $f_c \pm 1.9$ MHz				0.5	1.10	dB _{P-P}
Group Delay Variation over $f_c \pm 1.9$ MHz	GDV			65	150	ns _{P-P}
Rejection 50 to 65.44 MHz		1, 3	40	45		dB
65.44 to 70.44 MHz			39	43		
70.44 to 72.04 MHz			36	43		
81.26 to 82.56 MHz			38	49		
82.56 to 86.50 MHz			39	48		
86.5 to 91.50 MHz			41	48		
91.50 to 100.000 MHz			45	58		
Operating Temperature Range	T _A	1	-40		+85	°C
Frequency Temperature Coefficient	FTC			-18		ppm/°C
Differential Input			175 ohms			
Differential Output			1000 ohms			
Case Style		6	SMP-03-S 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift) See note 4			RFM SF2037B-3 YYWWS			

Electrical Connections

Connection	Port 1 Hot	Port 1 Ground Return or Hot	Port 2 Hot	Port 2 Ground Return or Hot	Case Ground
Terminals	10	1	5	6	All Others



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

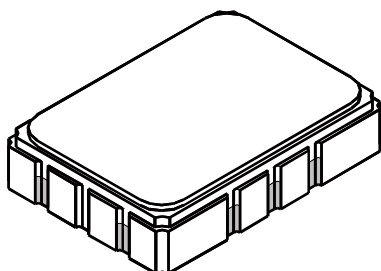
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, f_c .
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. Tape and Reel Standard ANSI / EIA 481.
7. 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.
8. US and international patents may apply.
9. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

SMP-03-S Case



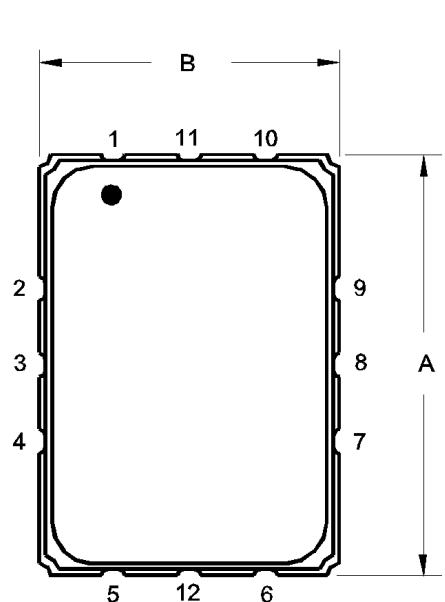
12-Terminal Ceramic Surface-Mount Case

5 x 7 mm Nominal Footprint

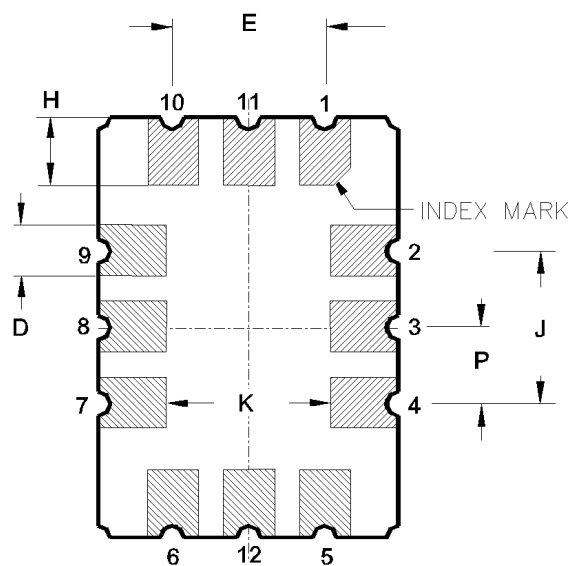
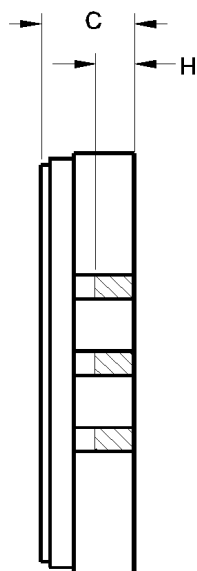


Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C		1.65	2.00		0.065	0.079
D		0.80				
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.1	1.13	0.034	0.039	0.044
J		2.54				
K		2.8				
P	1.14	1.27	1.40	0.045	0.050	0.055

Materials	
Solder Pad Termination	Au plating 30 - 60 μinches (76.2-152 μm) over 80-200 μinches (203-508 μm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 μinches Thick
Body	Al ₂ O ₃ Ceramic
Pb Free	



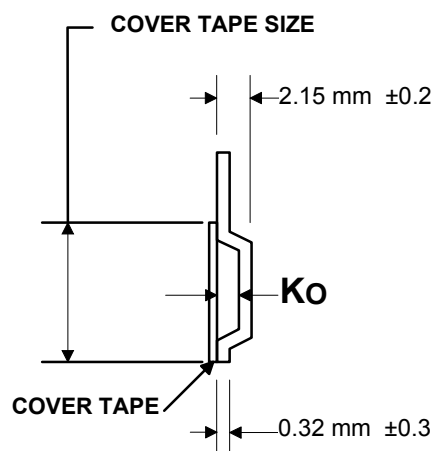
TOP VIEW



BOTTOM VIEW

Technical drawing of a carrier tape showing dimensions and labels. The drawing includes the following specifications:

- Carrier Tape Size:** Indicated by W and labeled "(CARRIER TAPE SIZE)".
- Pin 1:** Labeled "PIN #1".
- Dimensions:**
 - Top edge: $1.5\text{ mm } +0.1/-0.0$
 - Bottom edge: $1.5\text{ mm } +0.3/-0.0$
 - Distance from top edge to center of first pin: $4.0\text{ mm } \pm 0.1$
 - Distance between pins: $2.0\text{ mm } \pm 0.1$
 - Distance from center of first pin to center of last pin: $7.5\text{ mm } \pm 0.1$
 - Distance from center of last pin to bottom edge: $1.75\text{ mm } \pm 0.1$
- Labels:**
 - A_o : Label for the distance from the center of the first pin to the center of the last pin.
 - P : Label for the pitch (distance between pins).
 - B_o : Label for the distance from the center of the last pin to the bottom edge.
- Direction:** Labeled "USER DIRECTION OF FEED" with an arrow pointing right.



Carrier Tape Dimensions		
Ao	5.5 mm	±0.1
Bo	7.5 mm	±0.1
Ko	2.0 mm	±0.1
Pitch	8.0 mm	±0.1
W	16.0 mm	±0.3