

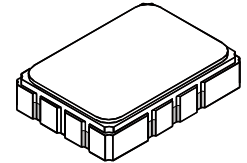
- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

**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
Suitable for lead-free soldering - Max Soldering Profile	260°C for 30 s	

**SF1146B**

**499.25 MHz**  
**SAW Filter**



**SMP-03**

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_c$			499.25		MHz
Passband	Insertion Loss at $f_c$	IL			3.5	dB
	1.5 dB Passband	$BW_1$	$\pm 15$			kHz
Rejection	$f_c \pm 1.5$ MHz		5			dB
	$f_c \pm 6.0$ MHz		20			
	$f_c \pm 50$ MHz		50			
Operating Temperature Range	$T_A$		-40		+85	°C
Differential Input and Output Impedance after matching			50 ohms			
Case Style			SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift, ## Sequence Code)			RFM, SF1146B, <u>YYWWS##</u>			

**Electrical Connections**

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



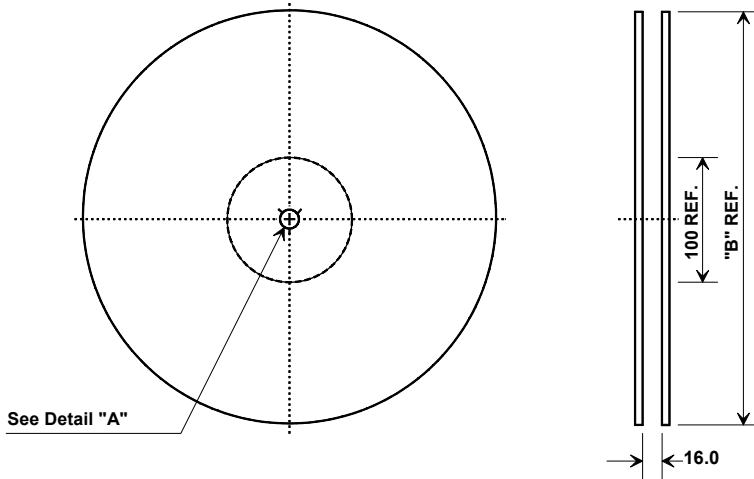
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

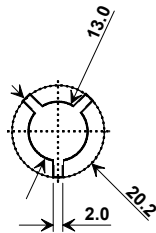
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

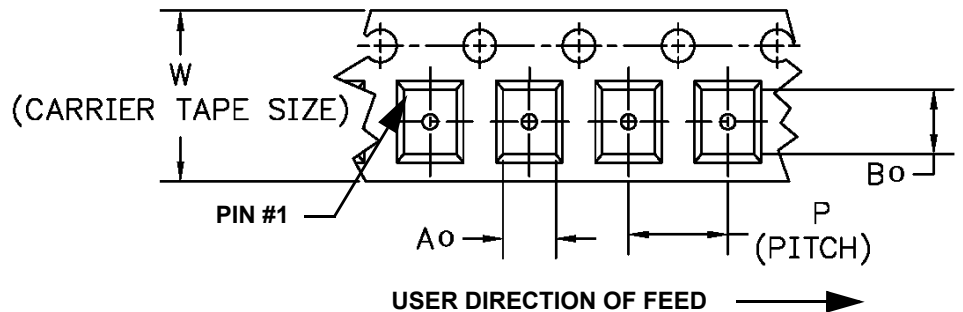
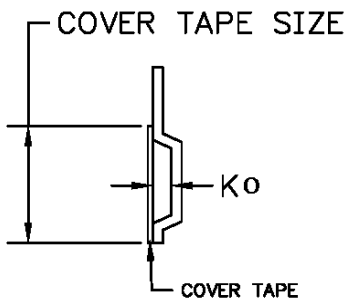


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



### COMPONENT ORIENTATION and DIMENSIONS

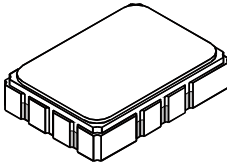
Carrier Tape Dimensions	
Ao	5.5 mm
Bo	7.5 mm
Ko	2.0 mm
Pitch	8.0 mm
W	16.0 mm



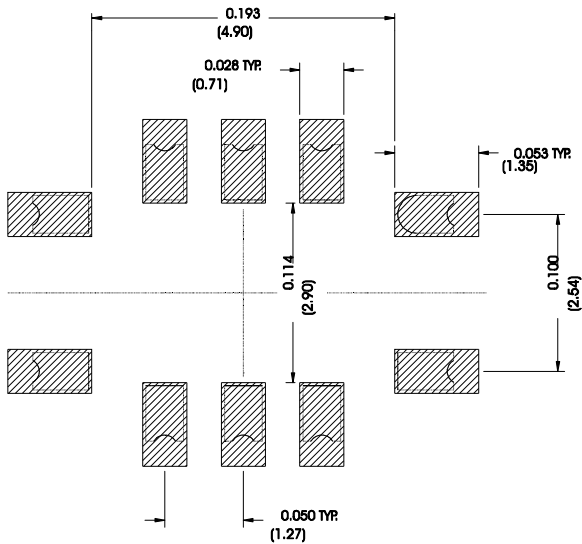
# SMP-03 Case

## 10-Terminal Ceramic Surface-Mount Case

### 7 x 5 mm Nominal Footprint



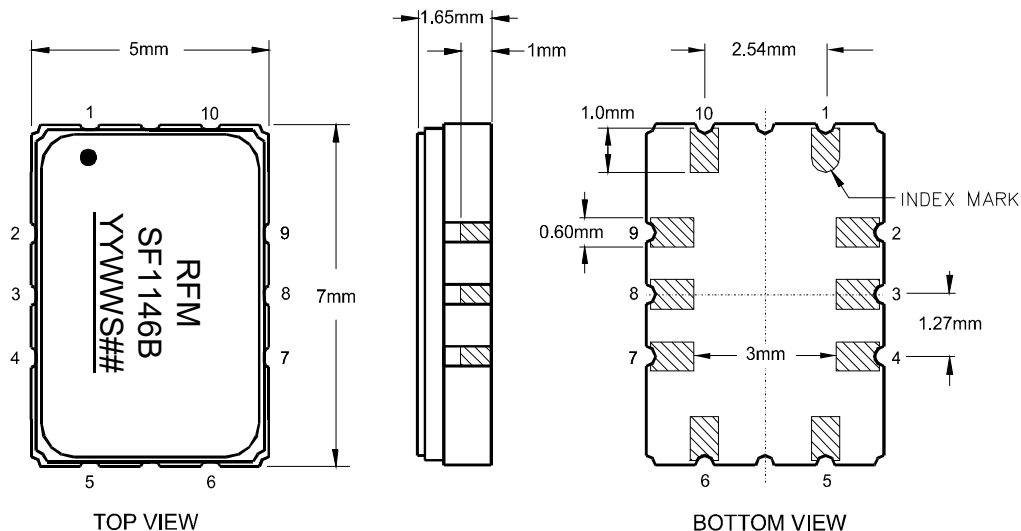
#### Recommended PCB Footprint



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		0.60			0.024	
E		2.54			0.100	
H		1.0			0.039	
J		5.00			0.197	
K		3.00			0.118	
P		1.27			0.050	

Electrical Connections		
Connection		Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
<b>Single Ended Operation</b>		<b>Return is ground</b>
<b>Differential Operation</b>		<b>Return is hot</b>

Materials	
Solder Pad Termination	Au plating 30 - 60 unches (76.2-152 uM) over 80-200 unches (203-508 uM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 unches Thick
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic



## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C+0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

