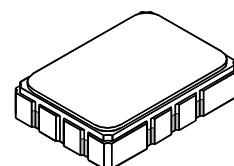


- **Designed for SDARS IF Receiver**
- **Low Insertion Loss**
- **5.0 x 7.0 mm Surface-mount Case**
- **Differential Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

SF1143B-1

**315 MHz SAW
Notch Filter**



SMP-03

Absolute Maximum Ratings

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

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_c			315.0		MHz
Passband	Insertion Loss at f_c	IL		15.1	17.0	dB
	Passband 1 low frequency	BW_3			309.400	MHz
	Passband 1 high frequency		313.435			MHz
	Passband 2 low frequency				317.965	MHz
	Passband 2 high frequency		321.685			MHz
Notch 3 dB rejection band relative to Passband 1 and Passband 2:						
3 dB low frequency rejection					315.030	MHz
3 dB high frequency rejection			315.865			
Maximum Notch Depth at f_c			-10			dB
Amplitude Ripple over Passband 1 + Passband					1.0	dB _{P-P}
Group Delay Variation over Passband 1 + Passband 2	GDV			23	200	ns _{P-P}
Rejection	100 MHz to $f_c-10.3$ and $f_c+10.3$ to f_c+100 MHz		40			dB
Operating Temperature Range	T_A		-40		+85	°C
Differential Input and Output Impedance			250 ohms			
Case Style			SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift, ## = Sequence Code)			RFM, SF1143B-1, YYWWS##			

Electrical Connections

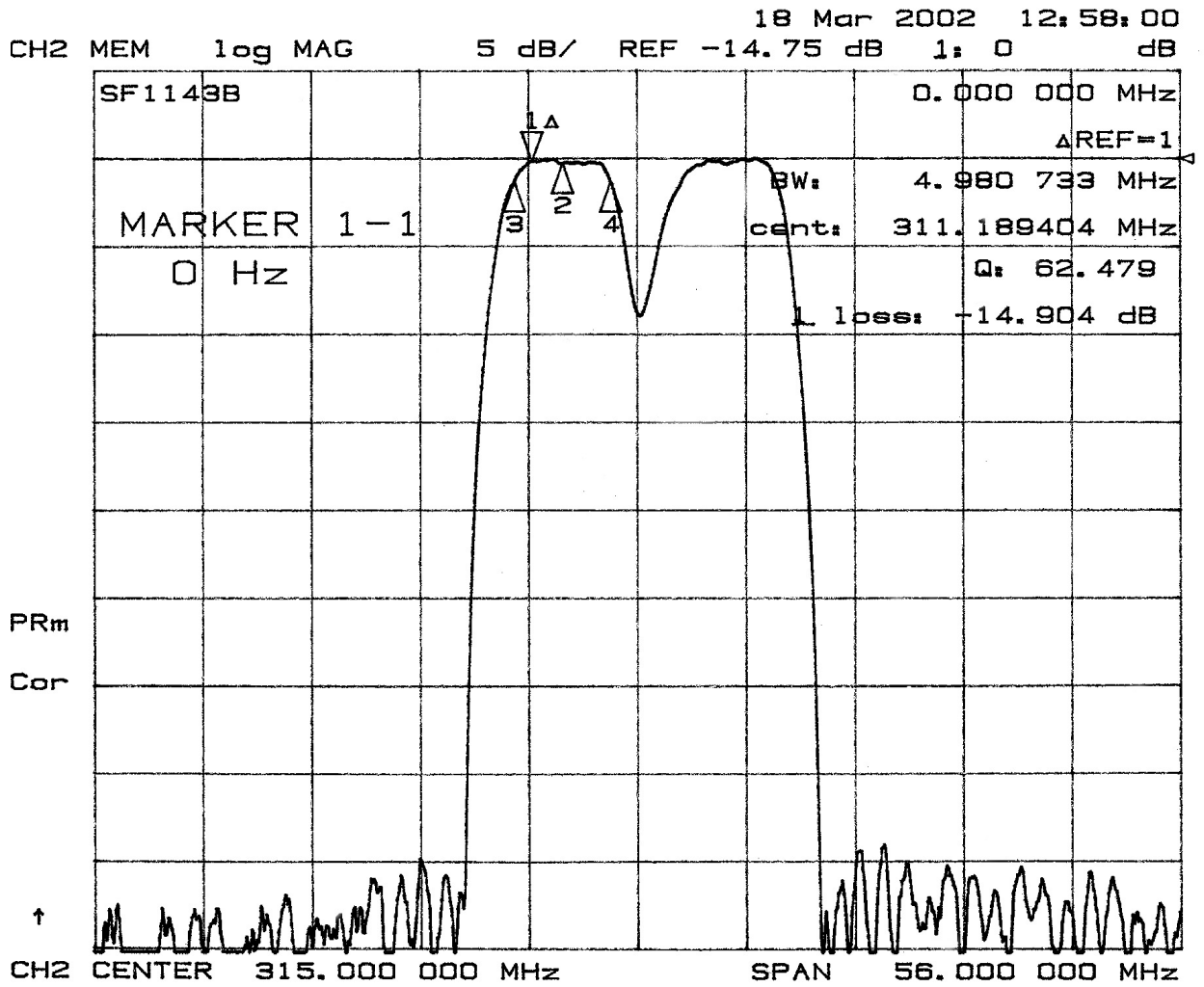
Connection	Terminals
Port 1 Hot	10
Port 1 Ground Return	1
Port 2 Hot	5
Port 2 Ground Return	6
Case Ground	All Others

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

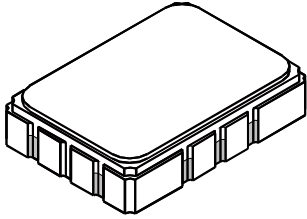
NOTES:

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.

SF1143B-1 Response Plot



10-Terminal Ceramic Surface-Mount Case 7 x 5 mm Nominal Footprint

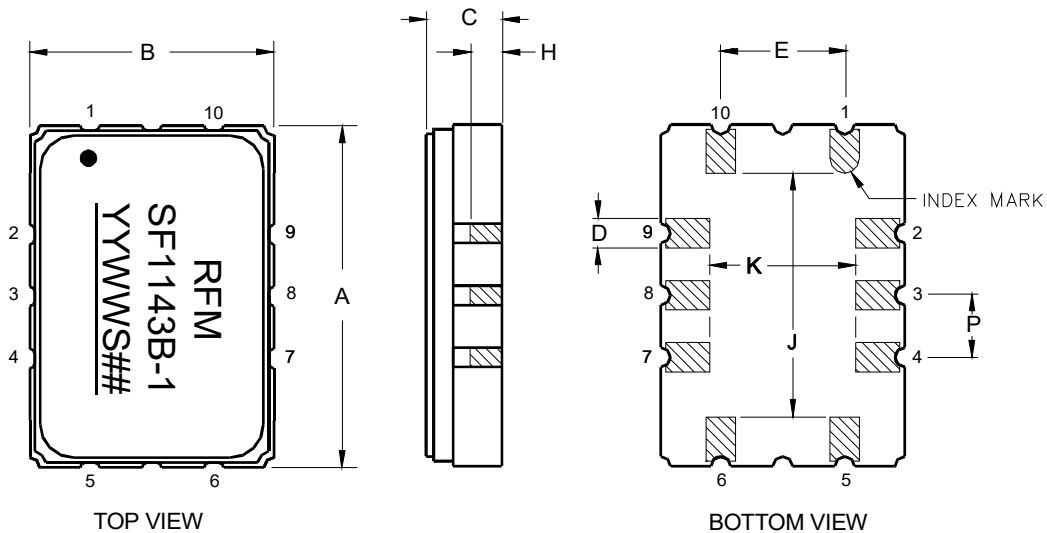


Case Dimensions

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		0.60			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	

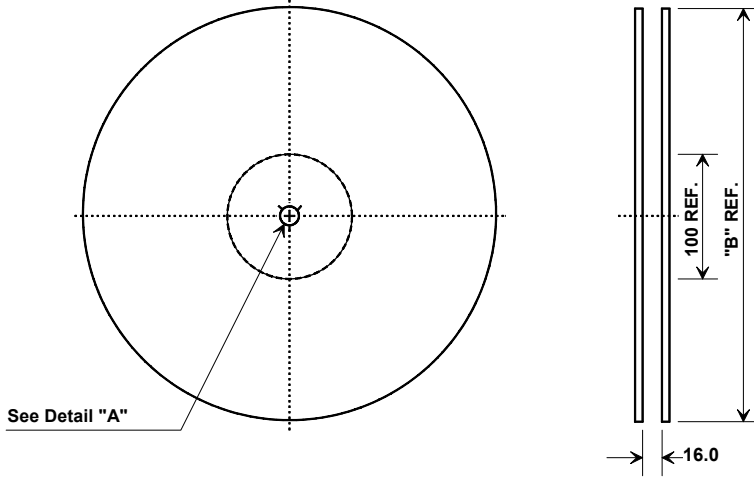
Electrical Connections

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
Single-ended Operation		Return is ground
Differential Operation		Return is hot

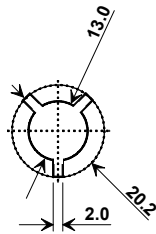


Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

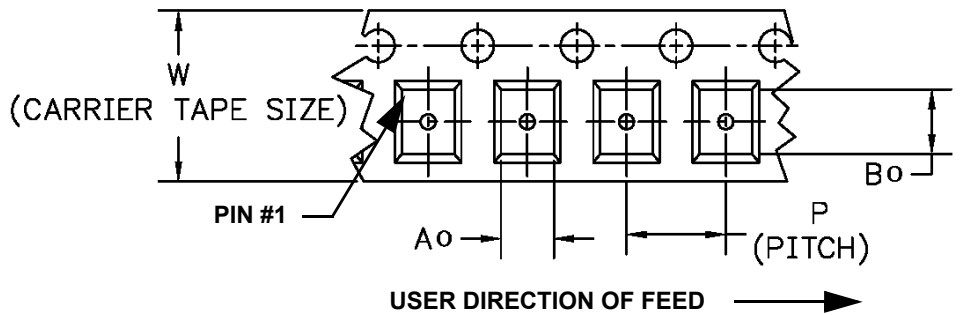
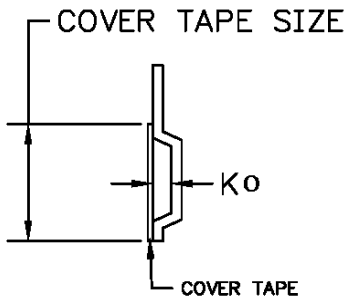


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



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



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.

