

- SAW Filter, 895 MHz, 15 MHz BW
- 7.0 X 5.0 mm 10 pin Surface-Mount Case
- Complies with Directive 2002/95/EC (RoHS)

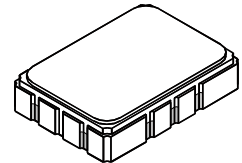


**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+20	dBm
Maximum DC Voltage Between any Two Terminals	0	VDC
Operating Temperature Range	-20 to +70	°C

**SF2145B**

**895 MHz  
SAW Filter**



**SMP-03**

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_c$	1		895		MHz
Source Impedance, single ended				50		$\Omega$
Load Impedance, single ended				50		$\Omega$
1 dB Bandwidth				18		MHz
Insertion Loss, 894 to 895.5 MHz	IL			8.5	9.0	dB
Insertion Loss Variation: Any point within 894 to 895.5 MHz measured at a constant temperature with the RF input level varying from +10 to +20 dBm					0.3	$\Delta$ dB
Amplitude Ripple, 894 to 895.5 MHz				.35	.75	dB
Average Group Delay, 894 to 895.5 MHz			804	814	824	ns
Group Delay Variation, 894.0 to 895.5 MHz				10	25	ns <sub>P-P</sub>
Input / Output Return Loss at $f_c$			10	15		dB
Temperature Coefficient				-18		ppm/K

Case Style	SMP-03 7.0 x 5.0 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week) See note 4	RFM SF2145B YYWW



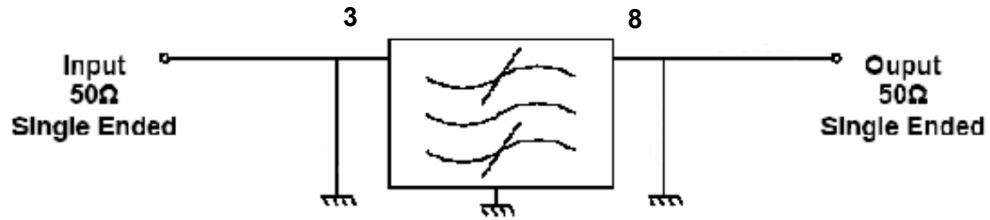
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

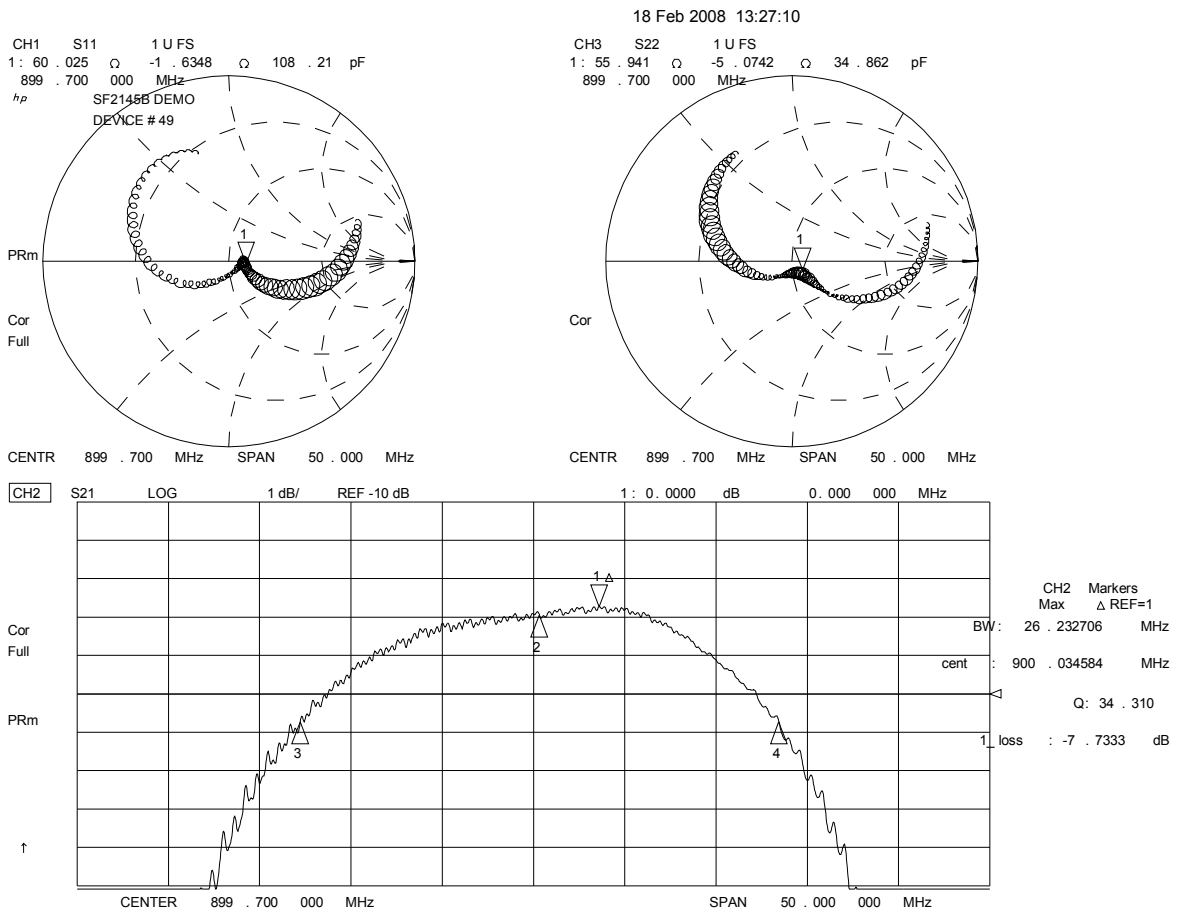
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced 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. 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.

# Testing Environment

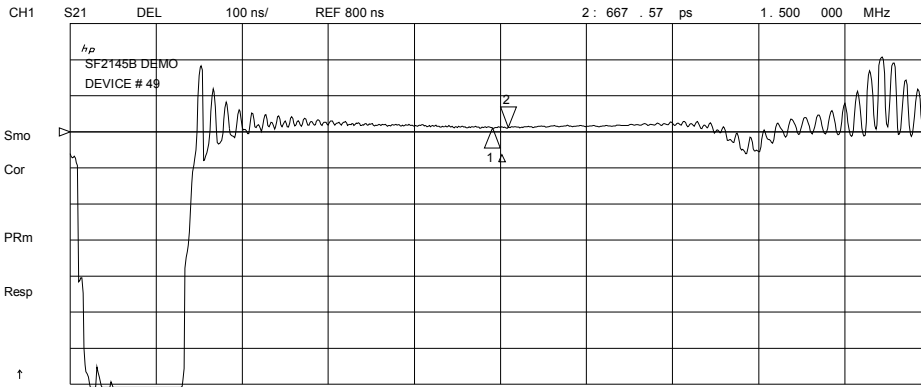
## 50 Ω / 50 Ω CONFIGURATION



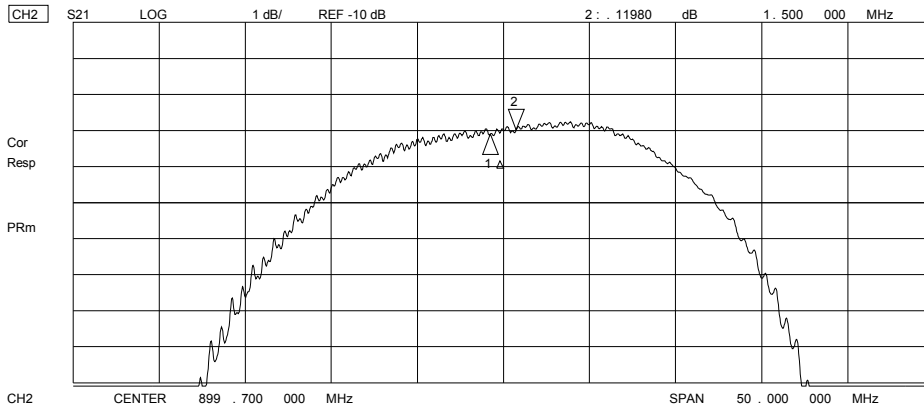
Note: Unmatched Filter to 50Ω Input / Output.



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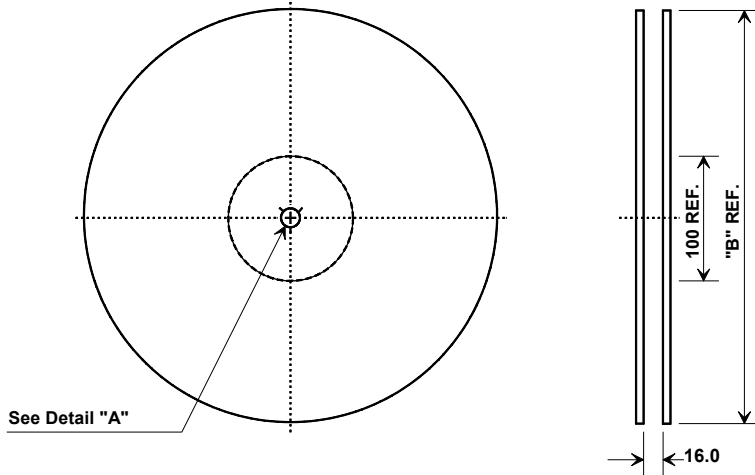


CH1 Markers  
Δ REF=1  
mean : 812 . 88 ns  
s. dev : 1 . 2799 ns  
p-p : 4 . 4631 ns

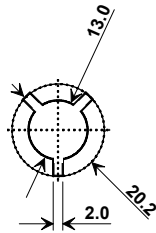


CH2 Markers  
Δ REF=1  
mean : -8 . 0196 dB  
s. dev : . 06000 dB  
p-p : . 24780 dB

## Tape and Reel Specifications

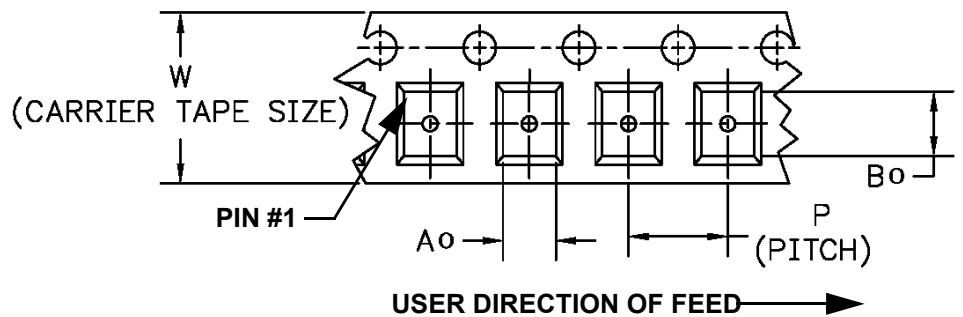
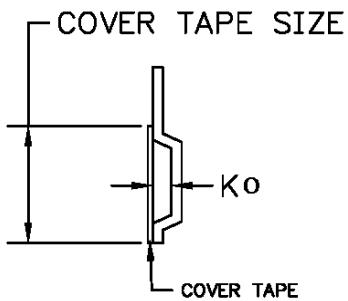


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



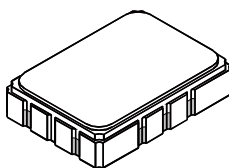
## COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
<b>Ao</b>	5.5 mm
<b>Bo</b>	7.5 mm
<b>Ko</b>	2.0 mm
<b>Pitch</b>	8.0 mm
<b>W</b>	16.0 mm

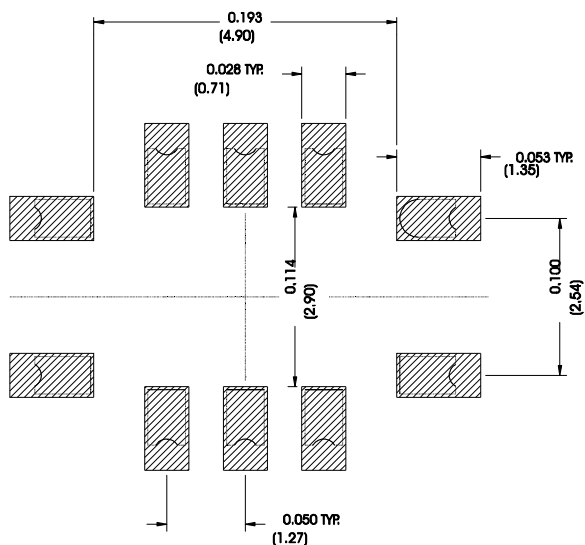


# SMP-03 Case

## 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	.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	4.87	5.00	5.13	0.192	0.197	0.202
K	2.87	3.00	3.13	0.113	0.118	0.123
P	1.14	1.27	1.40	0.045	0.050	0.055

### Electrical Connections

Connection	Terminals
Input (Port 1)	3
Output (Port 2)	8
Case Ground	2, 4, 7, 9
To Be Grounded	1, 2, 4, 5, 6, 7, 9, 10

### Materials

Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	

