

# Discontinued

AEC-Q200

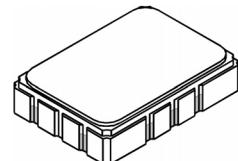
RoHS Compliance

This component is compliant with RoHS directive.

This component was always RoHS compliant from the first date of manufacture.

**SF2037B-2**

**76.500 MHz  
SAW Filter**



**SMP-03**

## 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 (with tape & reel)	-40 to +85	°C
Storage Temperature Range (without tape & reel)	-50 to +125	°C
Max Soldering Profile	265°C for 10 s	

## Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_C$			76.500		MHz
Passband	Insertion Loss	1		10.0	12.5	dB
1dB Passband	BW <sub>1</sub>		3.8	4.1		MHz
15dB Bandwidth	BW <sub>15</sub>			6.7	6.8	MHz
30dB Bandwidth	BW <sub>30</sub>	1		7.7	7.8	MHz
Amplitude Ripple over fc ±1.9 MHz				0.5	1.10	dB <sub>P-P</sub>
Group Delay Variation over fc ±1.9 MHz	GDV			65	150	ns <sub>P-P</sub>
Rejection	50 to 70.44 MHz		37	43		
	70.44 to 72.04 MHz		34	43		
	81.26 to 82.56 MHz	1, 3	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		+105	°C
Frequency Temperature Coefficient	FTC				-18	ppm/°C
Differential Input						175 ohms
Differential Output						1000 ohms
Case Style						SMP-03 7 x 5 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week, S=shift) See note 4						RFM SF2037B-2 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



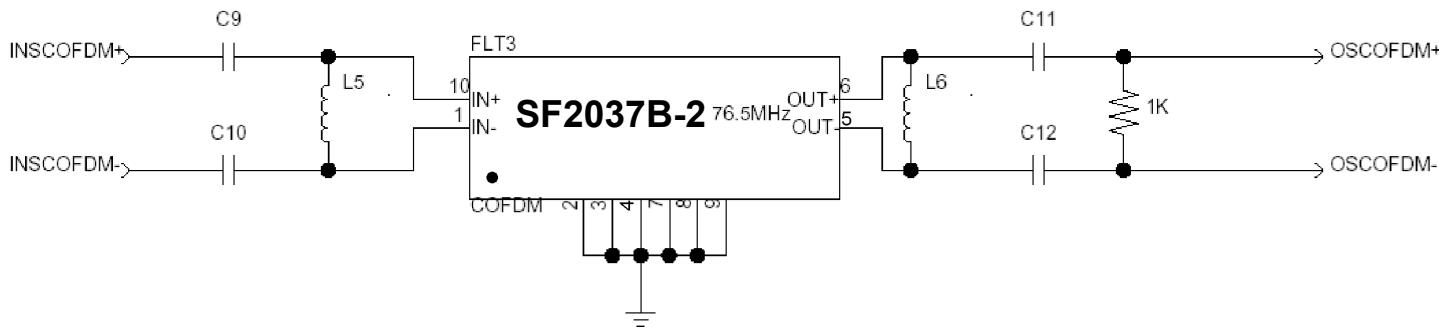
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

1. 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. 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.

**Matching Circuit and Matching Component Values Used in G3 Sirius Radios**

(Refer to Sirius Radio G3 Chipset Application Note, Doc. #RX000104-B, Sec. 4.2.4)

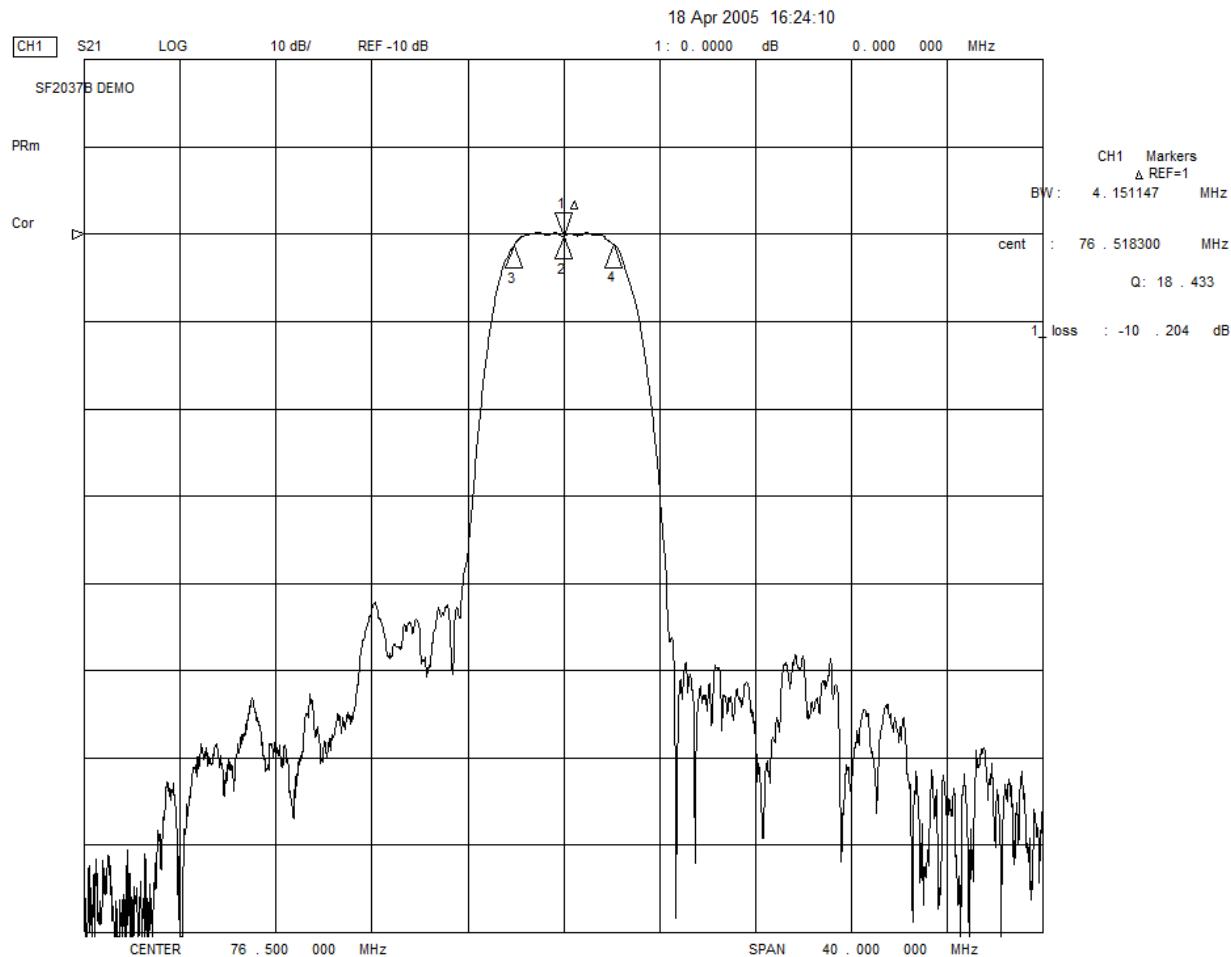
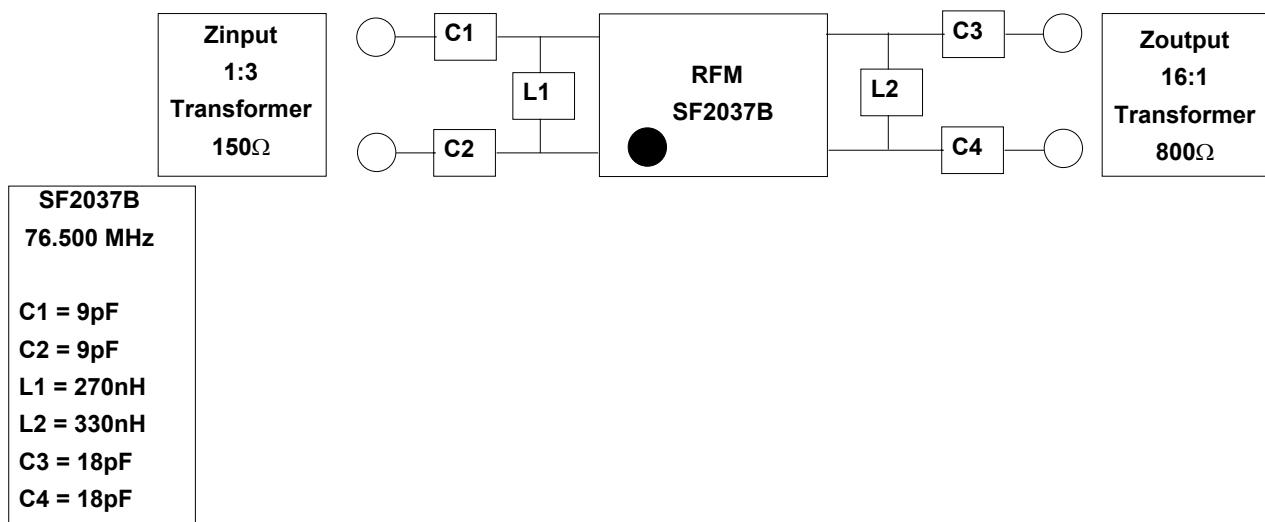


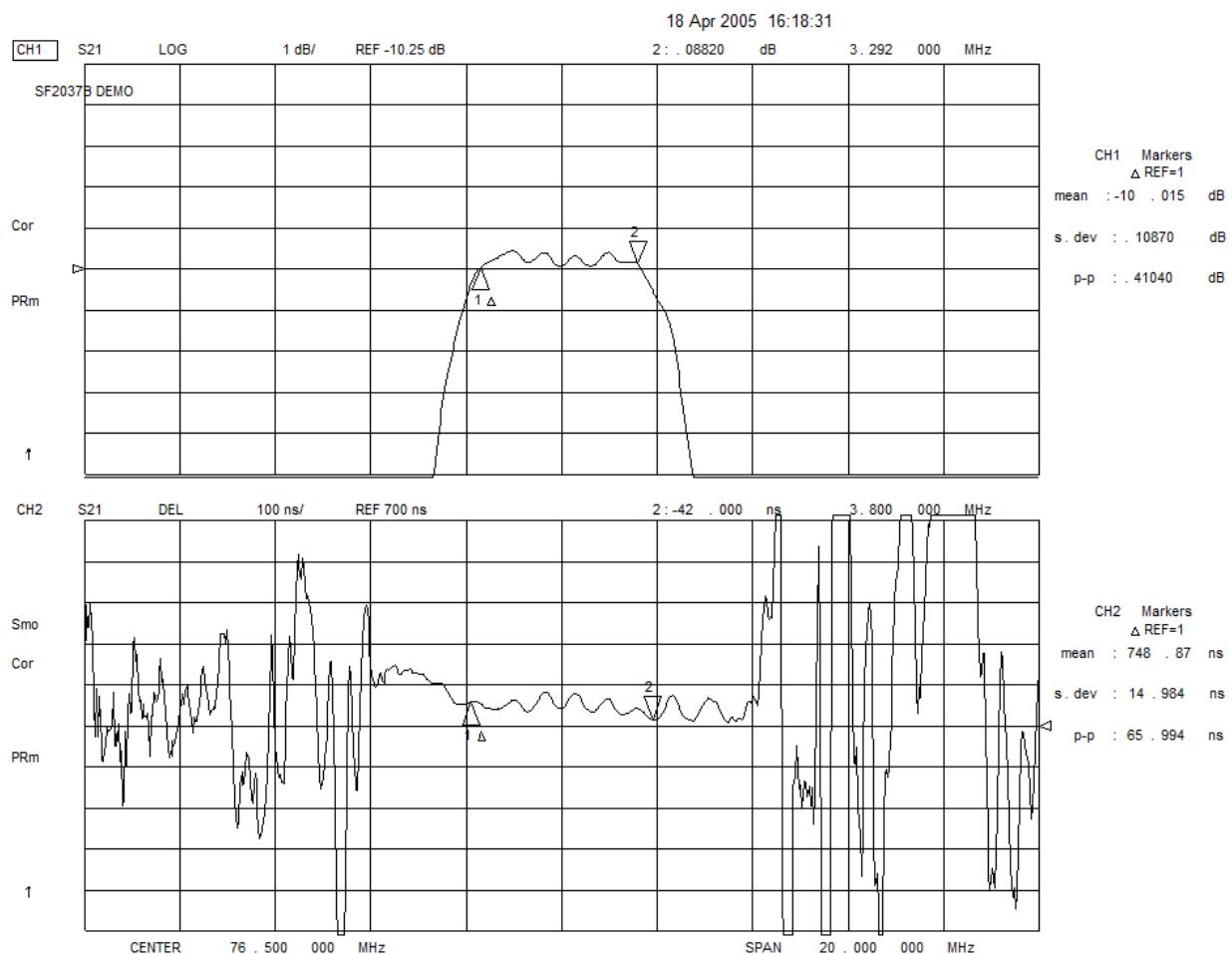
**COFDM Narrowband SAW Matching Circuit**

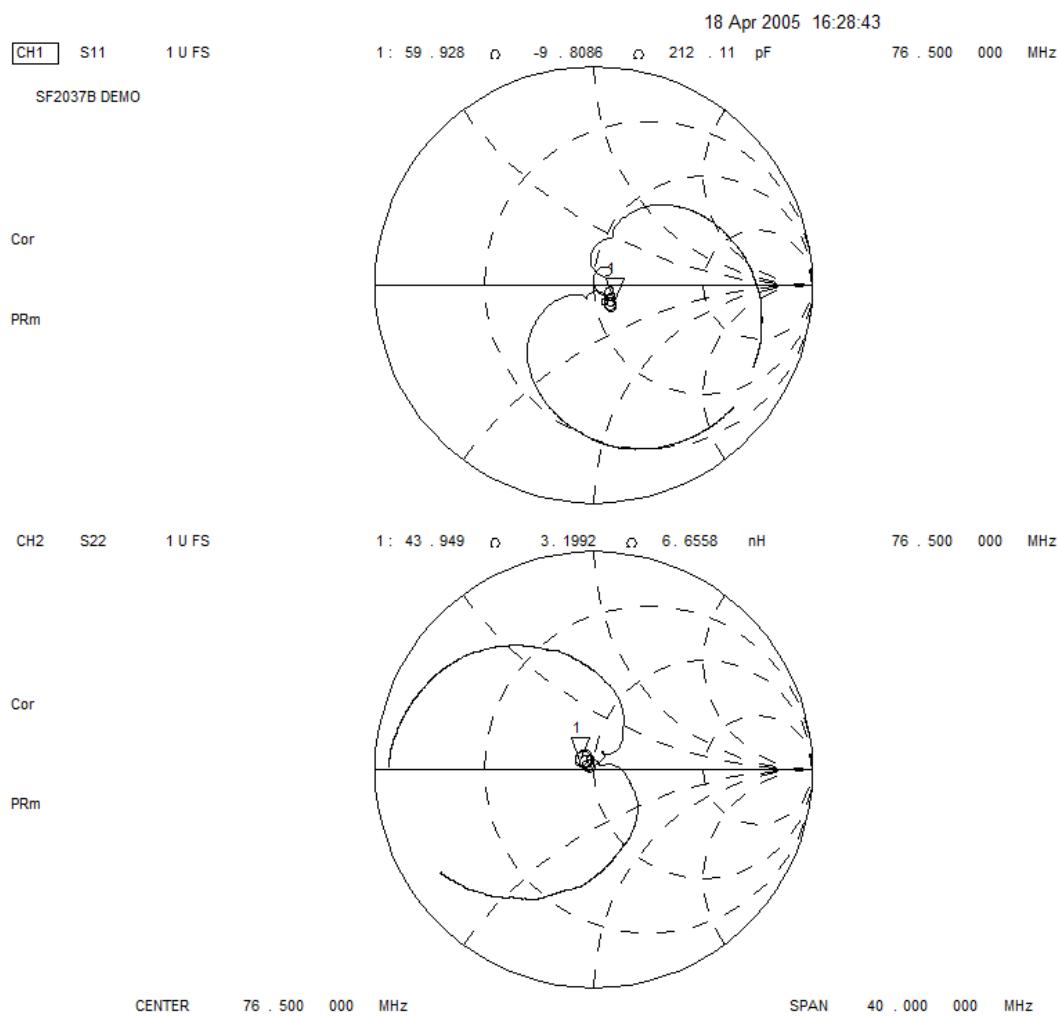
**COFDM Narrowband SAW Matching Values**

Reference Designator	Value
C9	10 pF
C10	10 pF
L5	270 nH
L6	390 nH
C11	100 pF
C12	100 pF

## Matching Circuit and Matching Component Values Used on Filter Demo Board

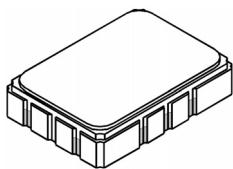




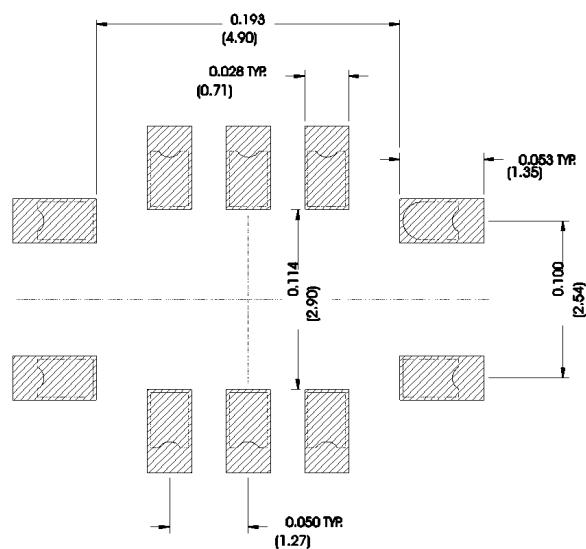


# SMP-03 Case

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



Recommended PCB Footprint



### Case Dimensions

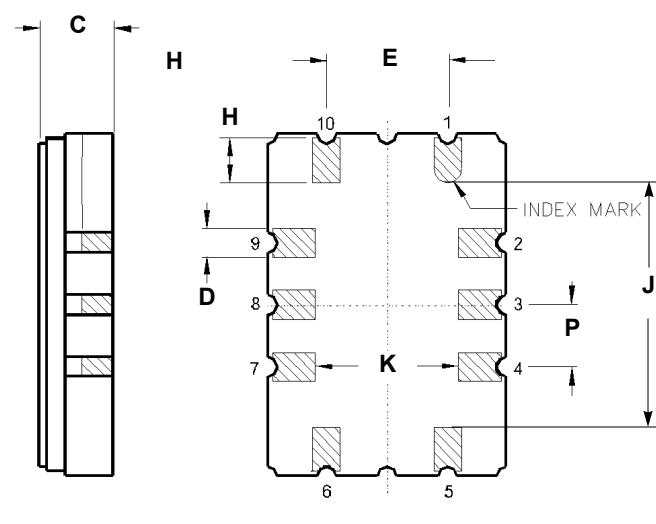
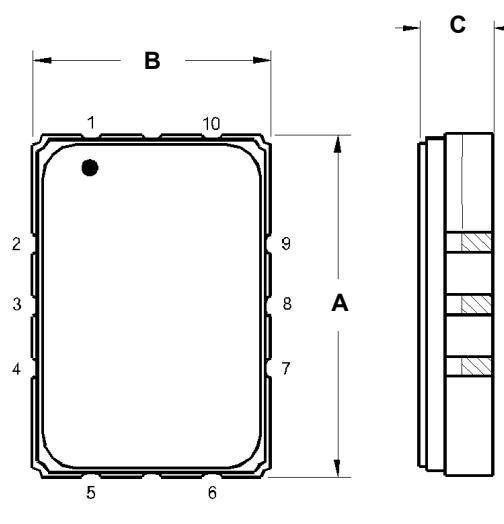
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
<b>A</b>	6.80	7.00	7.20	0.268	0.276	0.283
<b>B</b>	4.80	5.00	5.20	0.189	0.197	0.205
<b>C</b>		1.65	2.00		0.065	0.079
<b>D</b>	.47	0.60	.73	0.019	0.024	0.029
<b>E</b>	2.41	2.54	2.67	0.095	0.100	0.105
<b>H</b>	0.87	1.0	1.13	0.034	0.039	0.044
<b>J</b>	4.87	5.00	5.13	0.192	0.197	0.202
<b>K</b>	2.87	3.00	3.13	0.113	0.118	0.123
<b>P</b>	1.14	1.27	1.40	0.045	0.050	0.055

### Materials

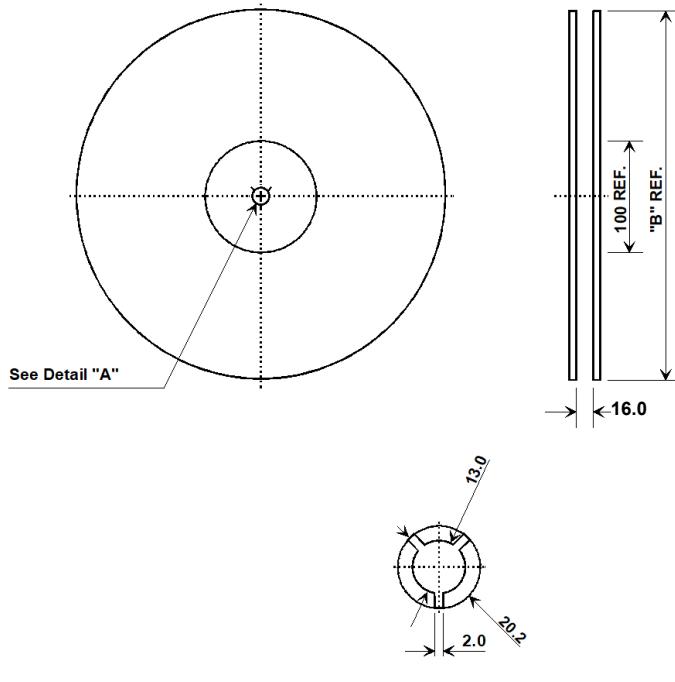
Solder Pad Termination	Au plating 30 - 60 $\mu$ inches (76.2-152 $\mu$ m) over 80-200 $\mu$ inches (203-508 $\mu$ m) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 $\mu$ inches Thick
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	

### 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>		Return is ground
<b>Differential Operation</b>		Return is hot



## Tape and Reel Specifications

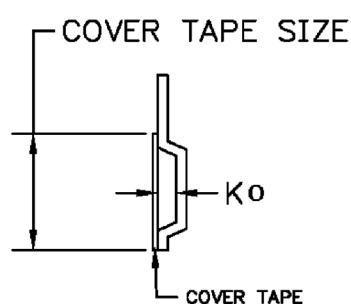


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000

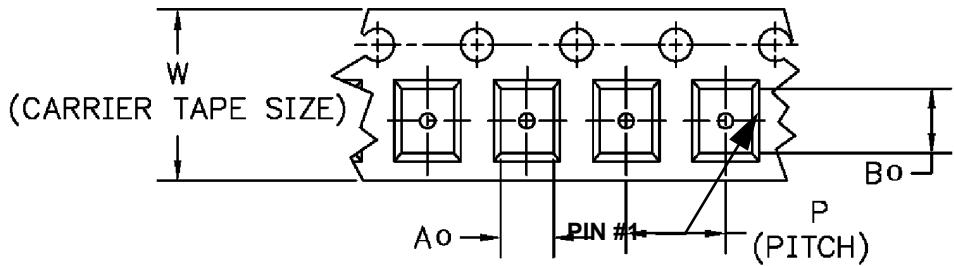
## Product Reflow/ESD/MSL

Reflow Peak Temperature	265	°C
Reflow Peak Time	10	Seconds
Liquidus 217 Temperature/Time	110	Seconds
Over Liquidus 230 Temperature/Time	70	Seconds
Reflow Condition	SMT	
Class Level HBM	2	
HBM(V)	2000	HBM(V)
MM(V)	N/A	MM(V)
CDM(V)	2000	CDM(V)
MSL	1	

## COMPONENT ORIENTATION and DIMENSIONS



Carrier Tape Dimensions	
A <sub>0</sub>	5.5 mm
B <sub>0</sub>	7.5 mm
K <sub>0</sub>	2.0 mm
Pitch	8.0 mm
W	16.0 mm



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