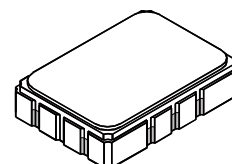


- Designed for SDARS Receiver IF Application
- Low Insertion Loss
- 5.0 X 7.0 mm Surface-Mount Case
- Differential Input and Output
- Complies with Directive 2002/95/EC (RoHS)



SF2025B

**259.861 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	-40 to +105	°C
Suitable for lead-free soldering - Max Soldering Temperature	260°C for 30 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_C		259.861			MHz
Passband	IL	Minimum Insertion Loss		13.3	15.5	dB
	$BW_{1.5}$	1.5 dB Passband		13.8		MHz
	BW_3	3 dB Passband		14.5		
Amplitude Ripple from fc-6.354 MHz to fc-4.2885 MHz (-20 to 85°C)					1	dB _{P-P}
Amplitude Ripple from fc-6.354 MHz to fc-4.2885 MHz (-40 to -20°C)					1.5	
Amplitude Ripple from fc-4.4965 MHz to fc-2.431 MHz					1	
Amplitude Ripple from fc-2.639 MHz to fc+0.079 MHz					1	
Amplitude Ripple from fc-0.079 MHz to fc+2.639 MHz					1	
Amplitude Ripple from fc+2.431 MHz to fc+4.4965 MHz					1	
Amplitude Ripple from fc+4.2885 MHz to fc+6.354 MHz (-40 to 60°C)					1	dB
Amplitude Ripple from fc+4.2885 MHz to fc+6.354 MHz (60 to 85°C)					1.15	
Group Delay Variation over fc-6.354 MHz to fc-2.431 MHz	GDV1			40	60	ns _{P-P}
and from fc+2.431 MHz to fc+6.354 MHz						
Group Delay Variation over fc±2.639 MHz	GDV2			40	120	
Rejection		fc-28 to fc-12 MHz and fc+12 to fc+33 MHz	36	43		dB
		fc-12 to fc-10.5 MHz	30	40		
		fc+9 to fc+12 MHz	18	36		
Operating Temperature Range	T_A		-40		+85	°C
Frequency Temperature Coefficient				-18		ppm/°C
Differential Input and Output Impedance	L & C Match to 150 ohms					
Case Style			SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift)			RFM, SF2025B, 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.

CH1 S11 1 UFS 1: 40.799 3.3672 2.0623 nH 259.861000 MHz

hp

Cor

PRm

HLd

CH2 S22 1 UFS

1: 39.922 7.5566 4.6282 nH

259.861000 MHz

Cor

CH2 TARGET VALUE NOT FOUND

PRm

HLd

CH2 Markers

BW: 0.000000 MHz

cent: 0.000000 MHz

Q: 0.0000

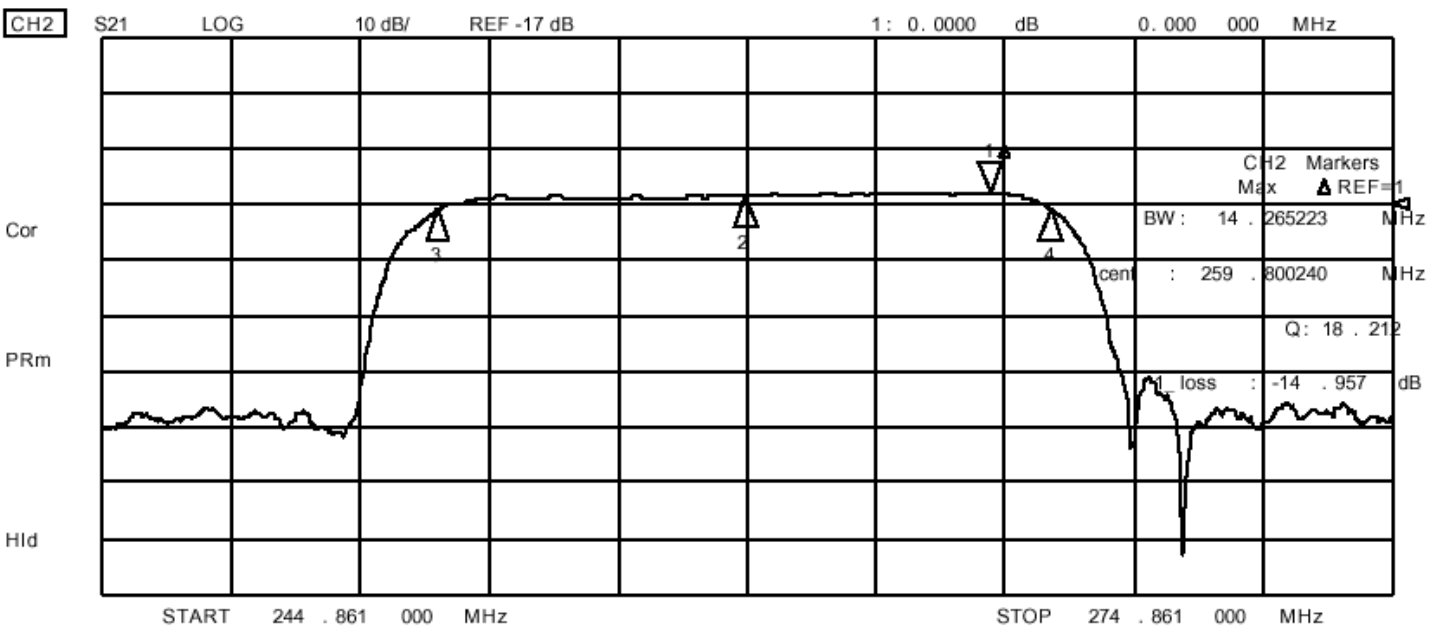
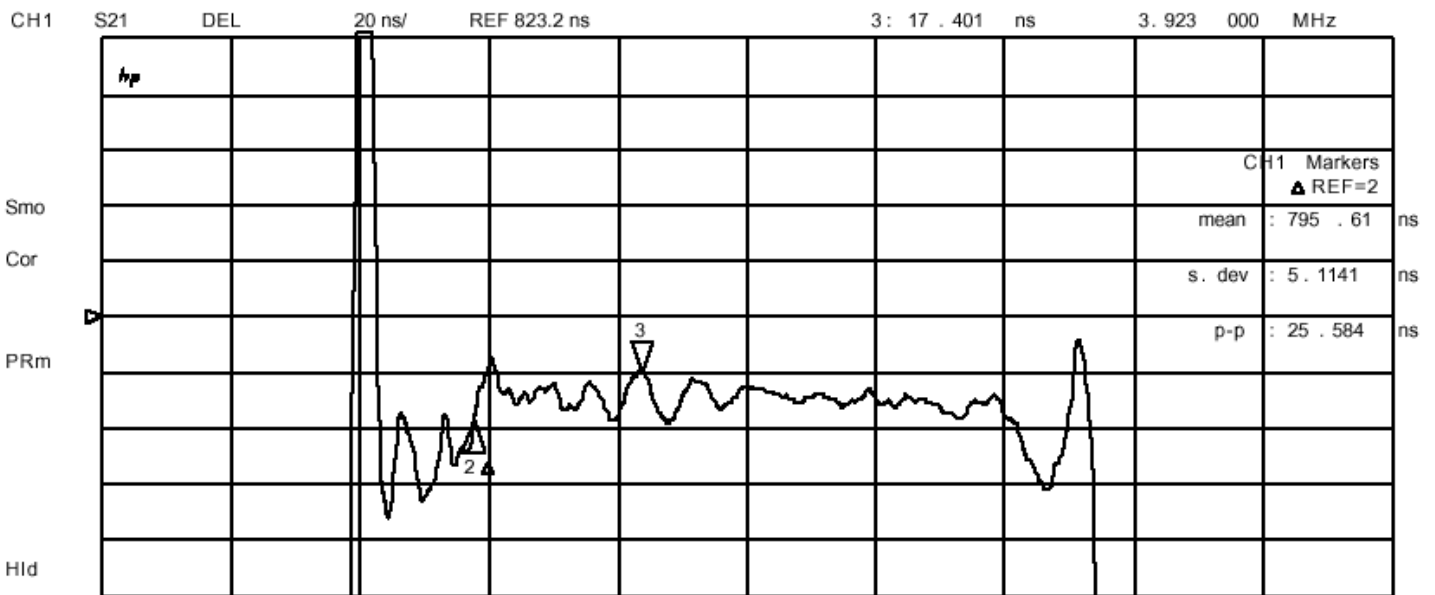
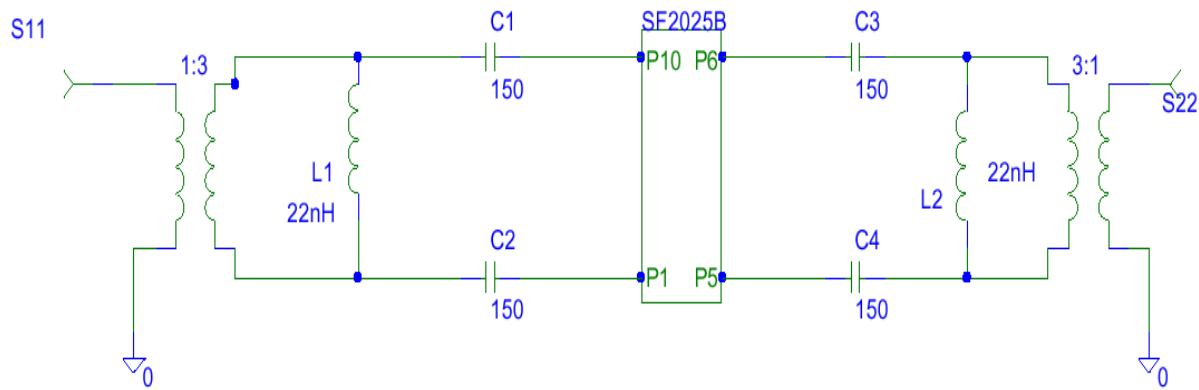
1_loss: 39.922 nH

START 244.861000 MHz

STOP 274.861000 MHz

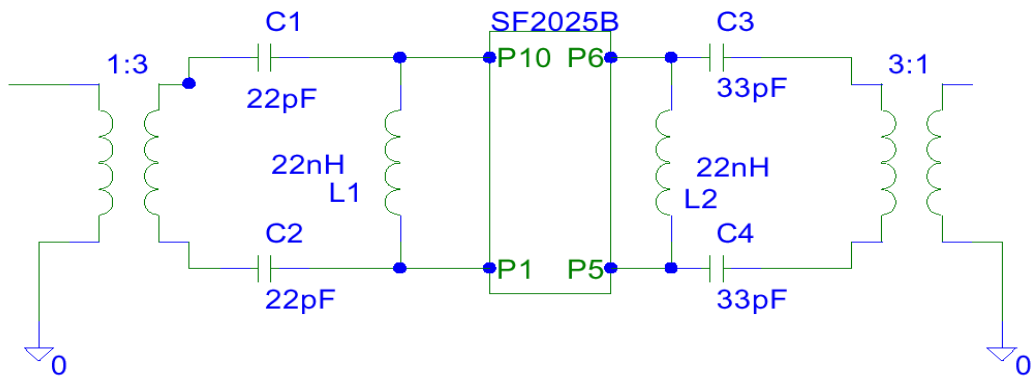
SF2025B
50 Ohm System

Matching Circuits



Matching Circuits

better rejection tuning



CH1 S11 1 UFS 1: 50 . 018 11 . 121 6. 8112 nH 259 . 861 000 MHz

hp

Cor

PRm

Hid

CH2 S22 1 UFS

1: 42 . 555 11 . 117 6. 8089 nH 259 . 861 000 MHz

Cor

CH2 TARGET VALUE NOT FOUND

PRm

Hid

START 244 . 861 000 MHz

STOP 274 . 861 000 MHz

SF2025B
50 Ohm System

CH2 Markers

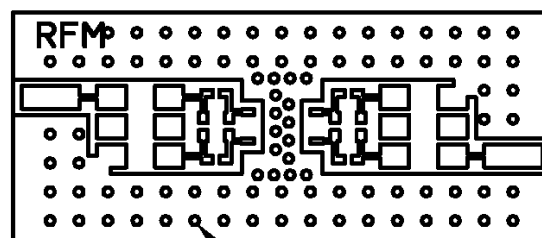
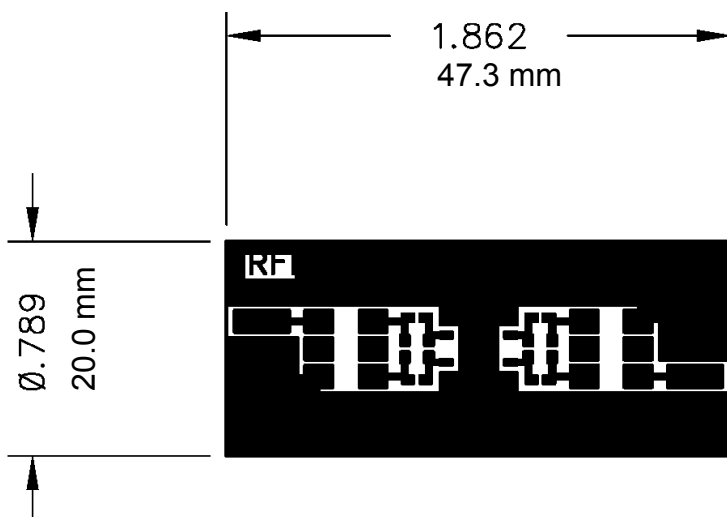
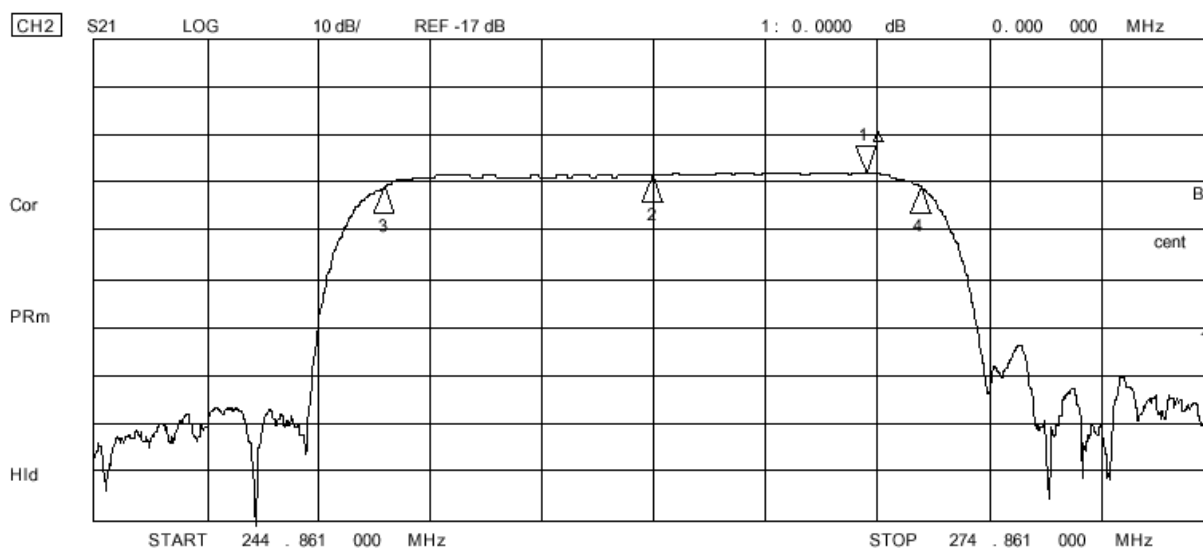
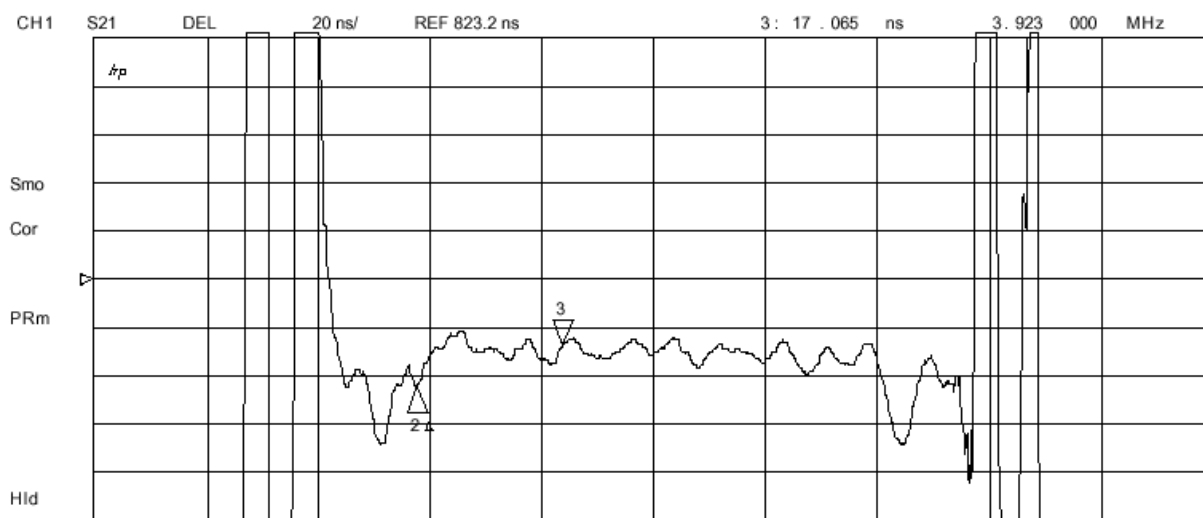
BW: 0. 000000 MHz

cent : 0. 000000 MHz

Q: 0. 0000

1_loss : 42 . 555 Ω

22 Dec 2003 16:58:01

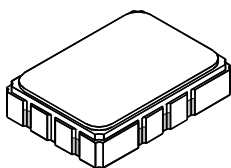


ALL HOLES PLATED THRU - ϕ 1/32 DRILL

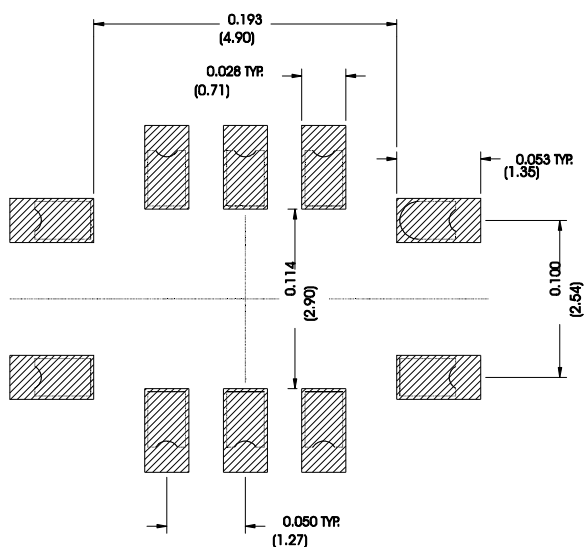
SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



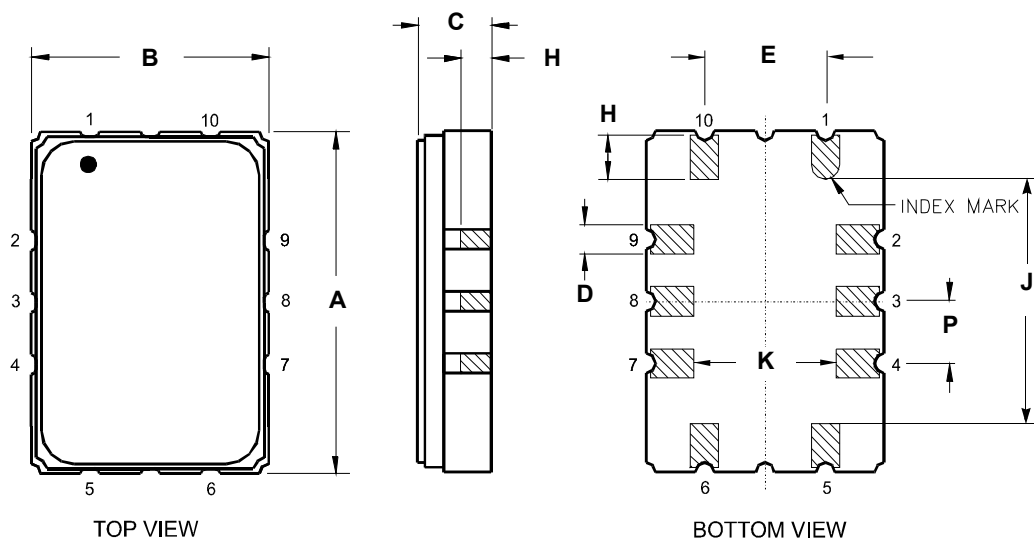
Recommended PCB Footprint



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

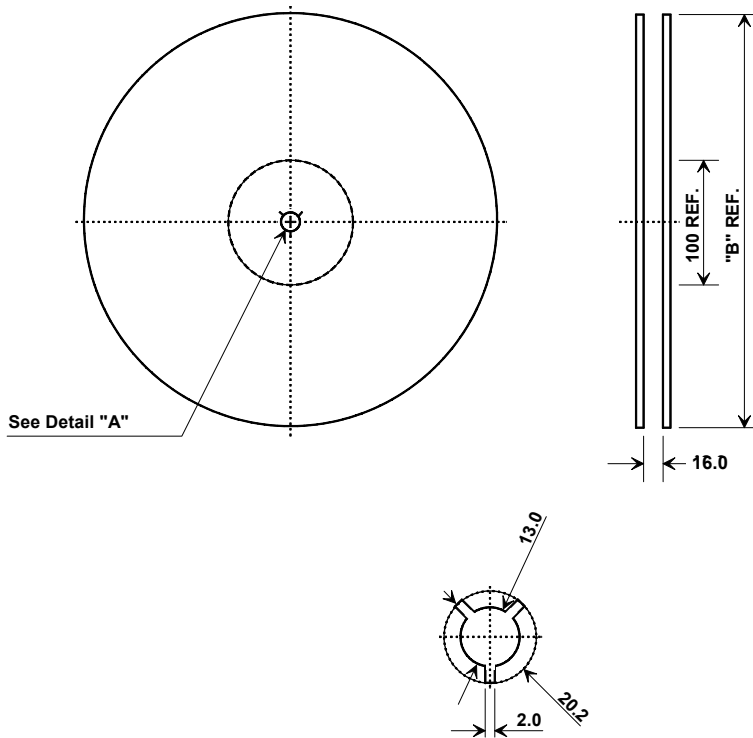
Materials	
Solder Pad Termination	Au plating 30 - 60 pinches (76.2-152 μ m) over 80-200 pinches (203-508 μ m) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 pinches Thick
Body	Al ₂ O ₃ Ceramic
Pb Free	

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
Single Ended Operation		Return is ground
Differential Operation		Return is hot



Tape and Reel Specifications

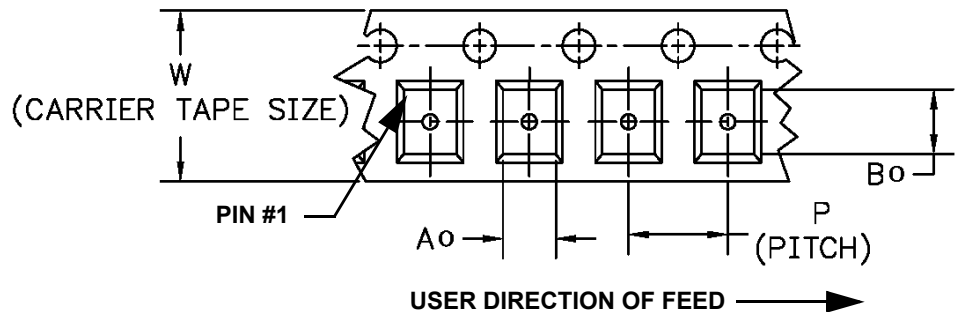
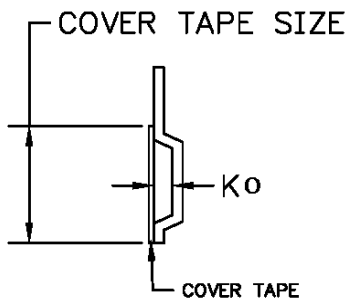
Tape and Reel Standard per ANSI/EIA-481



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

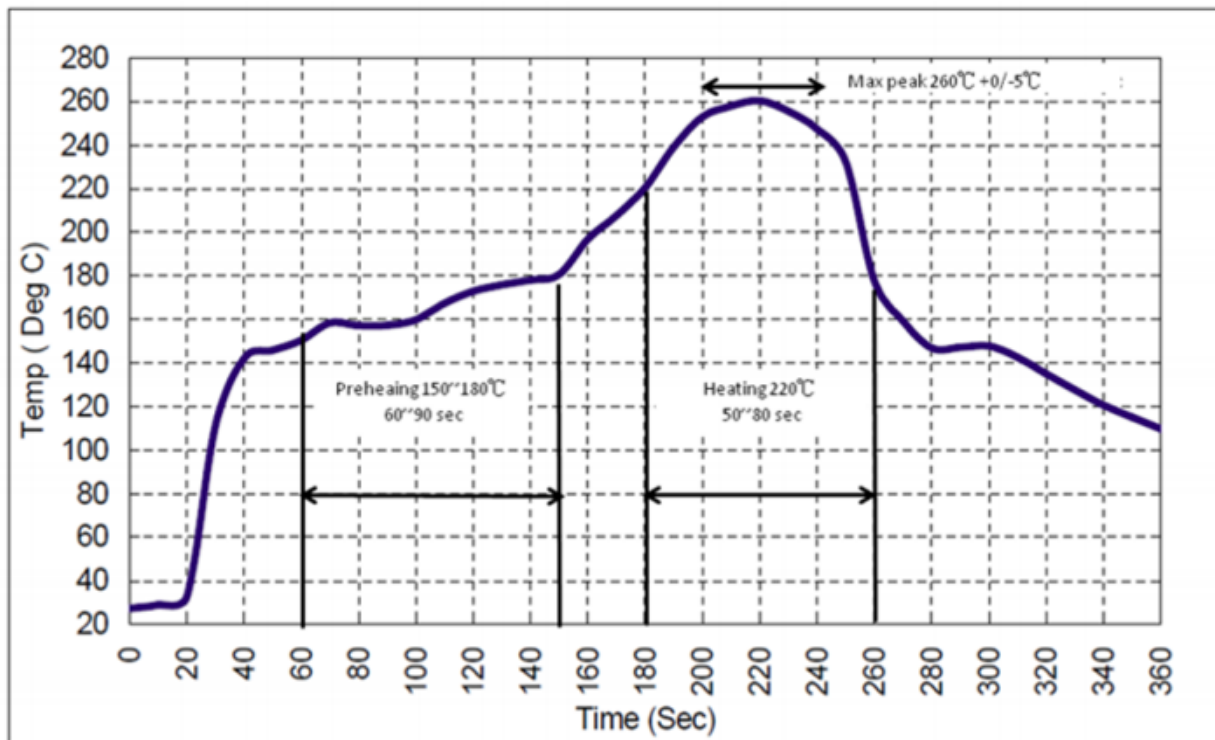
COMPONENT ORIENTATION and DIMENSIONS

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.



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