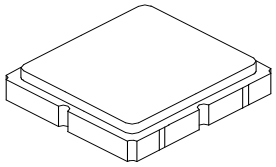
RFMi
A BRAND OF AKOUSTIS

RoHS compliant

SF2281D

313.15/314.00 MHz Dual SAW Filter

- ***Low Insertion Loss Dual SAW Filter***
- ***3.8 x 3.8 mm Surface-mount Case***
- ***Single-ended Input and Output***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Moisture Sensitivity Level: 1***
- ***AEC-Q200 Qualified***



SM3838-8

Absolute Maximum Ratings

Rating	Value	Units
Maximum Input Power	+10	dBm
Maximum DC Voltage Between any Two Terminals	3	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Operating Temperature Range	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260 °C for 30 s	

Electrical Characteristics

Characteristic	Sym	Note	Min	Typ	Max	Units
Band 1 Center Frequency	f_{C1}			313.15		MHz
Band 1 Insertion Loss, 313.05 to 313.25 MHz				3.5	4.5	dB
Band 1 Amplitude Ripple, 313.05 to 313.25 MHz				0.7	1.2	dB
Band 1 VSWR, 313.05 to 313.25 MHz				1.6	2.3	
Band 1 Attenuation Referenced to 0 dB:						dB
313.90 to 314.10 MHz			26	30		
f_{C1} + 2.00 MHz			25	30		
f_{C1} - 2.00 MHz			30	35		
Band 2 Center Frequency	f_{C2}			314.00		MHz
Band 2 Insertion Loss, 313.90 to 314.10 MHz				3.5	4.5	dB
Band 2 Amplitude Ripple, 313.90 to 314.10 MHz				0.5	1.2	dB
Band 2 VSWR, 313.90 to 314.10 MHz				1.6	2.3	
Band 2 Attenuation Referenced to 0 dB:						dB
313.05 to 313.25 MHz			26	30		
f_{C2} + 2.00 MHz			25	30		
f_{C2} - 2.00 MHz			30	35		

Case Style		SM3838-8 3.8 x 3.8 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator		A28, YWWS
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

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.

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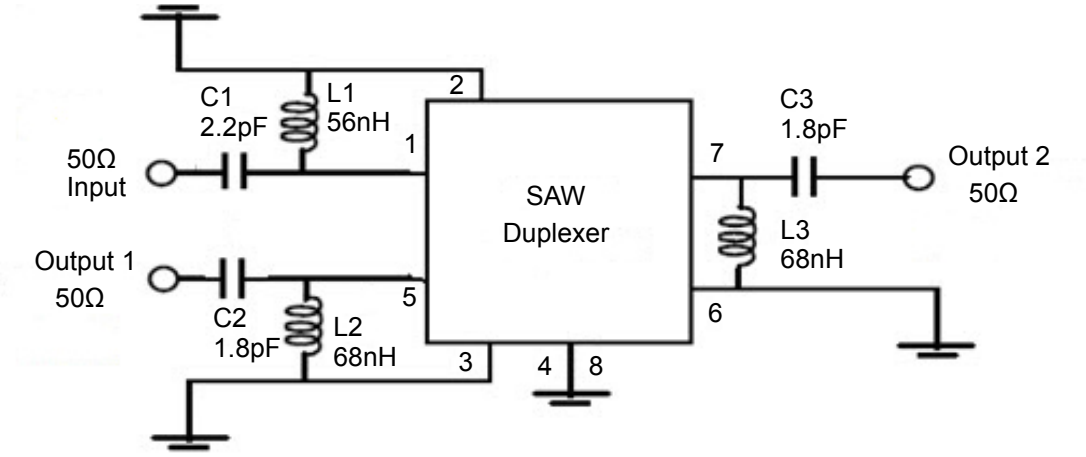
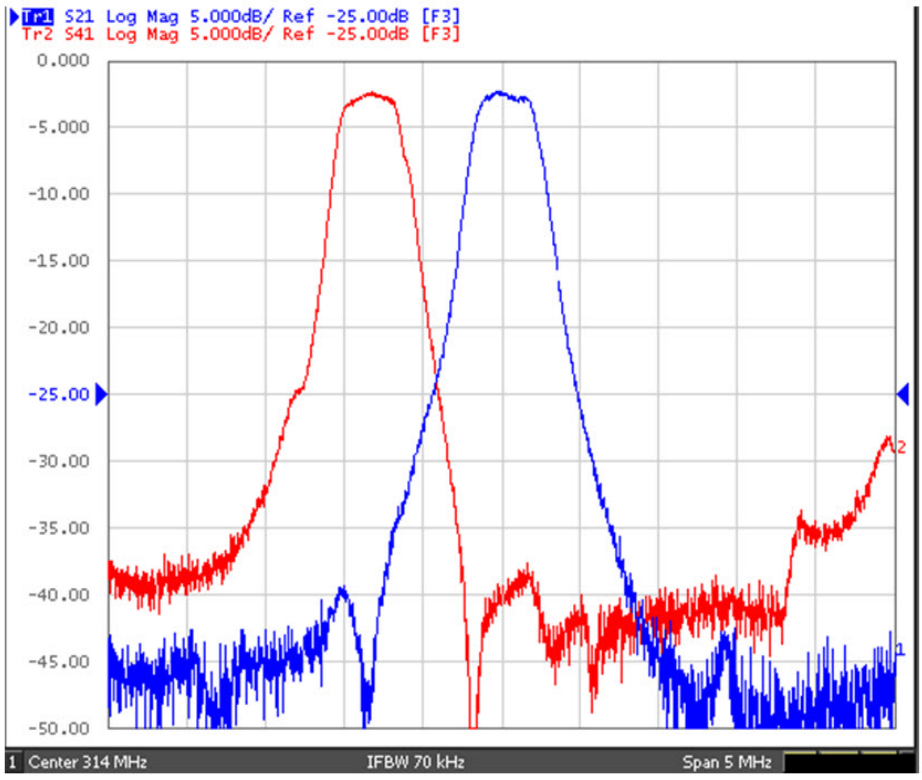
Measurement Circuit



Frequency Characteristics

S21: Span 5MHz



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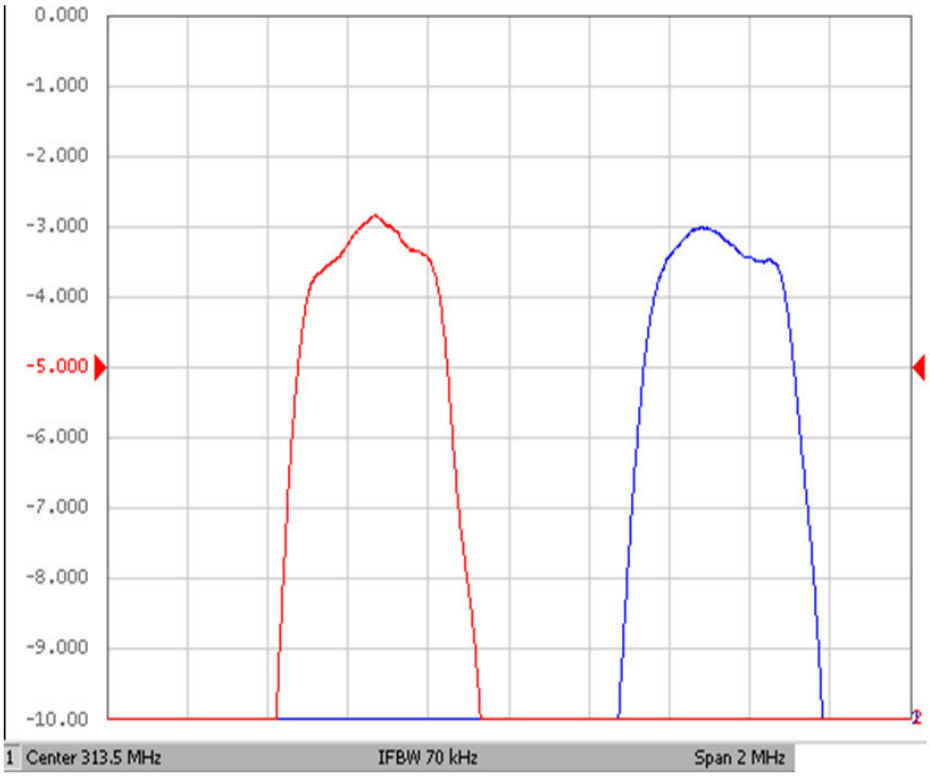
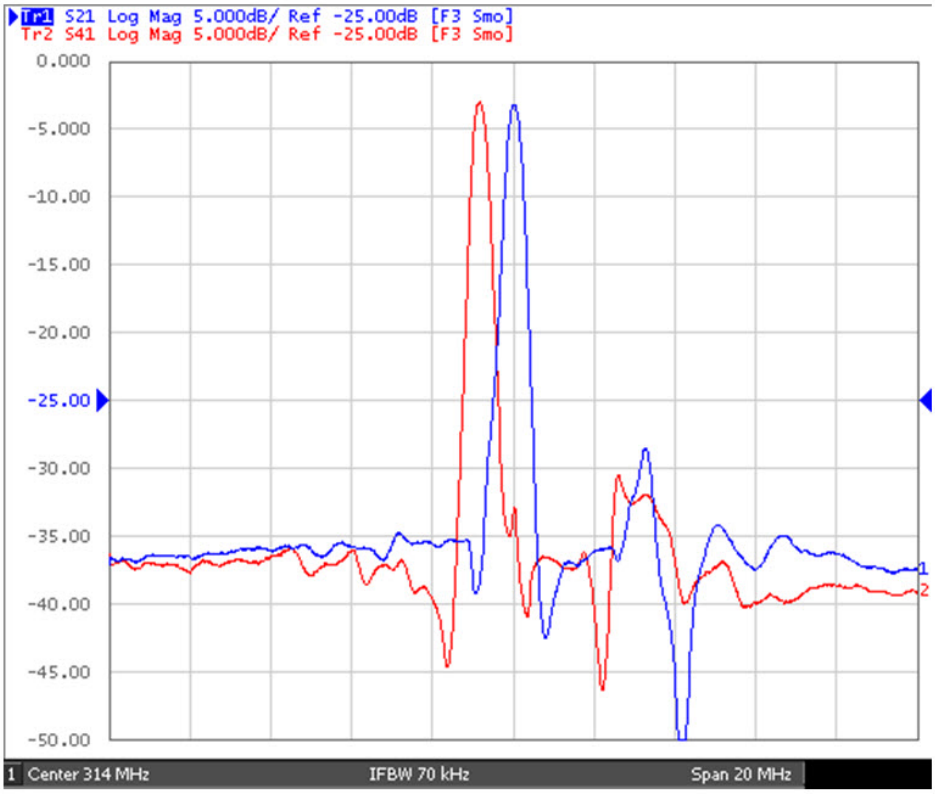
S21: Span 5MHz



S21: Span 20MHz



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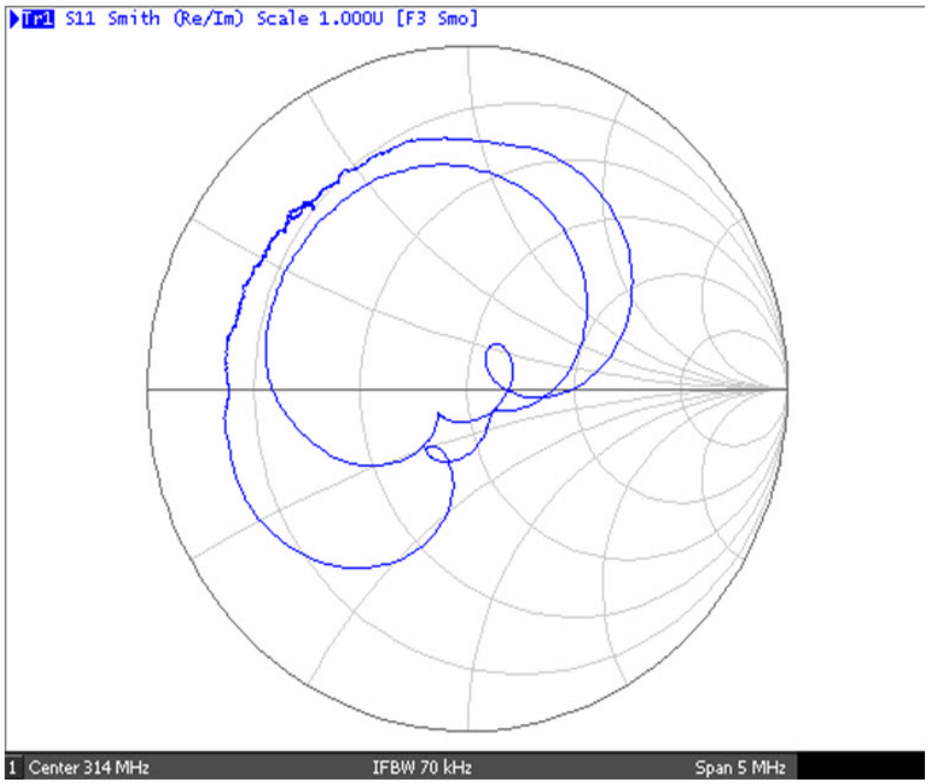
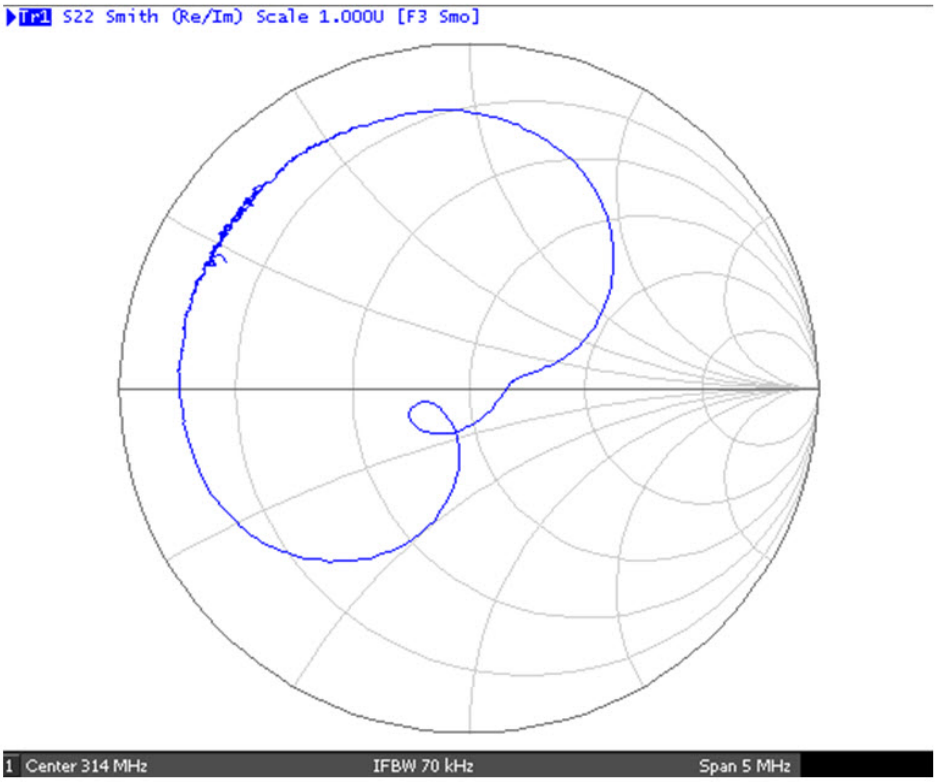
S11 (I/P)



S22: (O/P-2)



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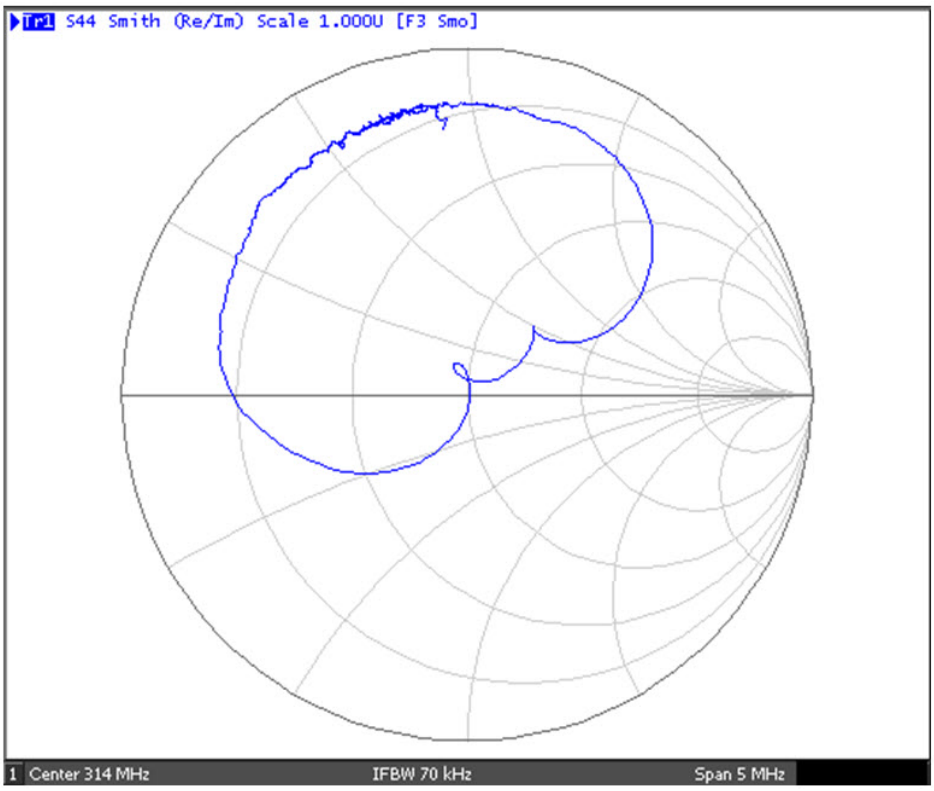
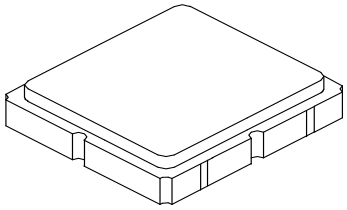
S44 (O/P_1)

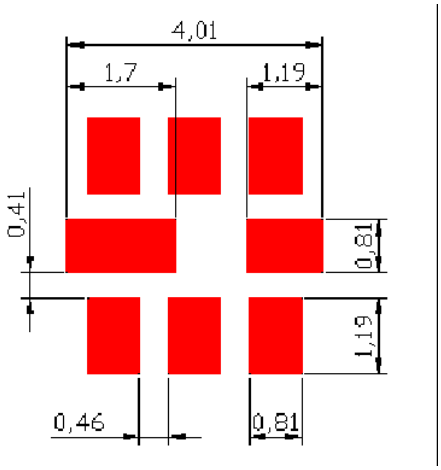

Tr1 S44 Smith (Re/Im) Scale 1.000U [F3 Smo]
1 Center 314 MHz
IFBW 70 kHz
Span 5 MHz

SM3838-8 Case

8-Terminal Ceramic Surface-mount Case

3.8 X 3.8 mm Nominal Footprint





Typical PCB Footprint

Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.142	0.150	0.157
B	3.6	3.8	4.0	0.142	0.150	0.157
C	1.05	1.20	1.40	0.041	0.047	0.055
D	0.95	1.10	1.25	0.037	0.043	0.049
E	0.90	1.00	1.10	0.035	0.040	0.043
F	0.50	0.60	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	-	1.50	-	-	0.069	-

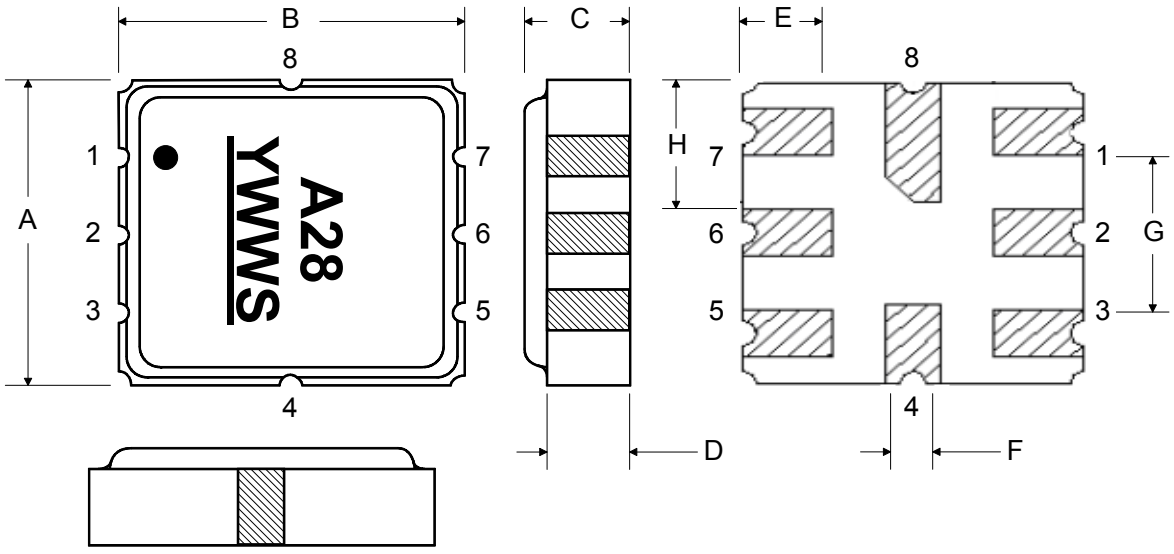
Electrical Connections

Pin	Connection
1	Input
2,3,6	RF Ground
4,8	Case Ground
5	Band 1 Output
7	Band 2 Output
Dot Indicates Pin 1	

Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic

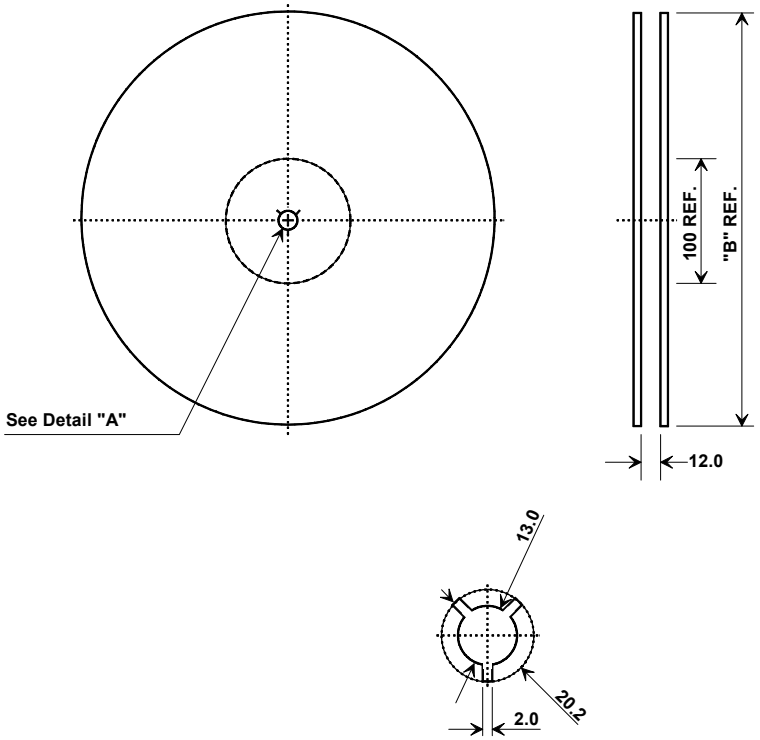
TOP VIEW

BOTTOM VIEW



Tape and Reel Specifications

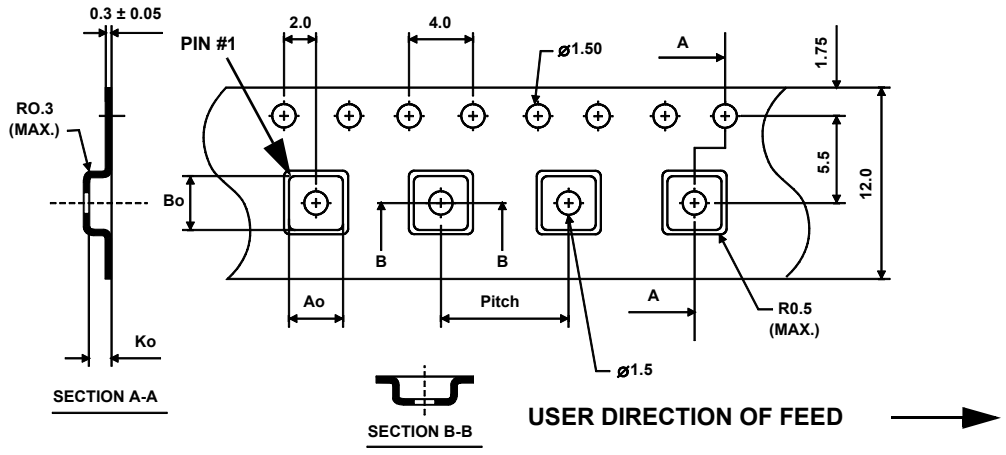
Tape and Reel Standard per ANSI/EIA-481

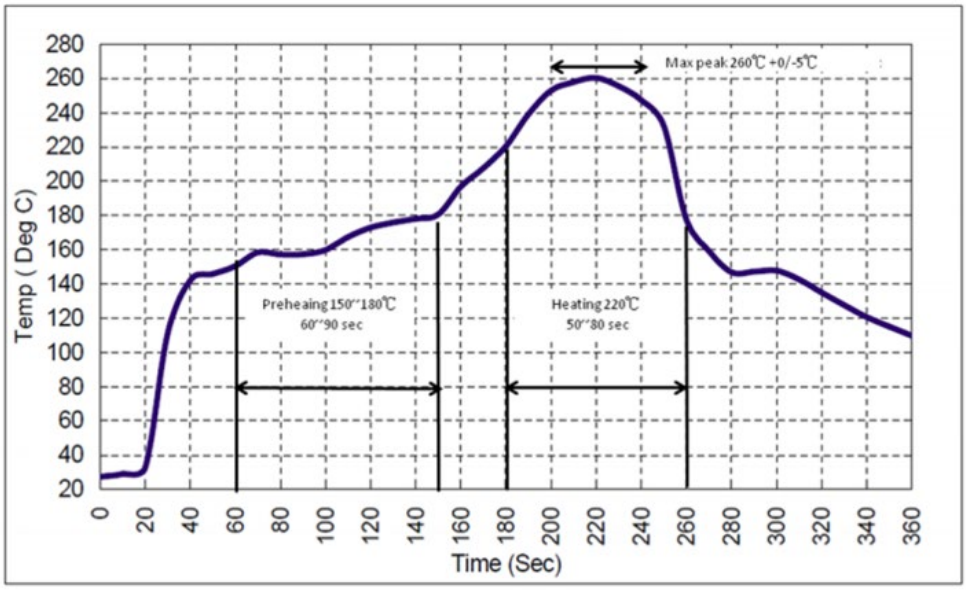


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm



Recommended Reflow Profile

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