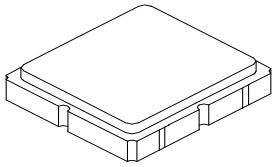
SF2281D

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***

RoHS Compliant



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		

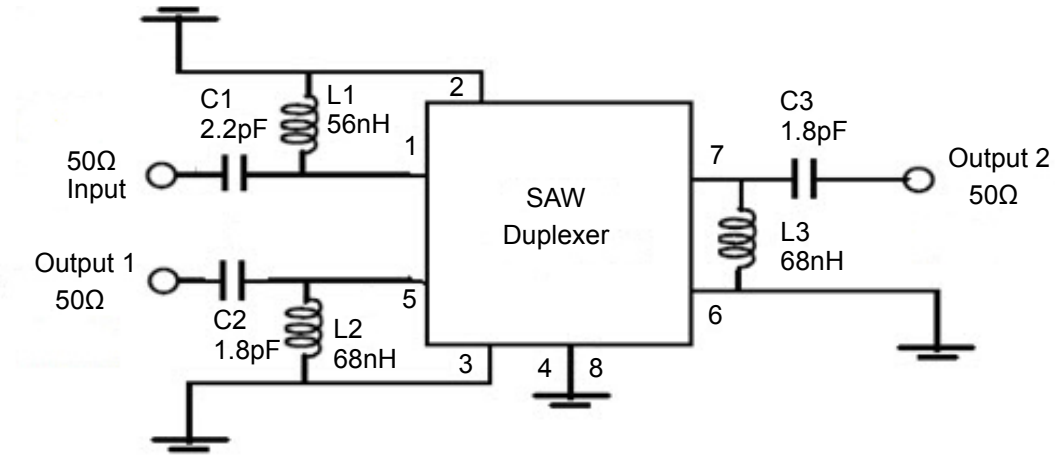
Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	A28, YWWS
Standard Reel Quantity Reel Size 7 Inch	500 Pieces/Reel
Reel Size 13 Inch	3000 Pieces/Reel

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

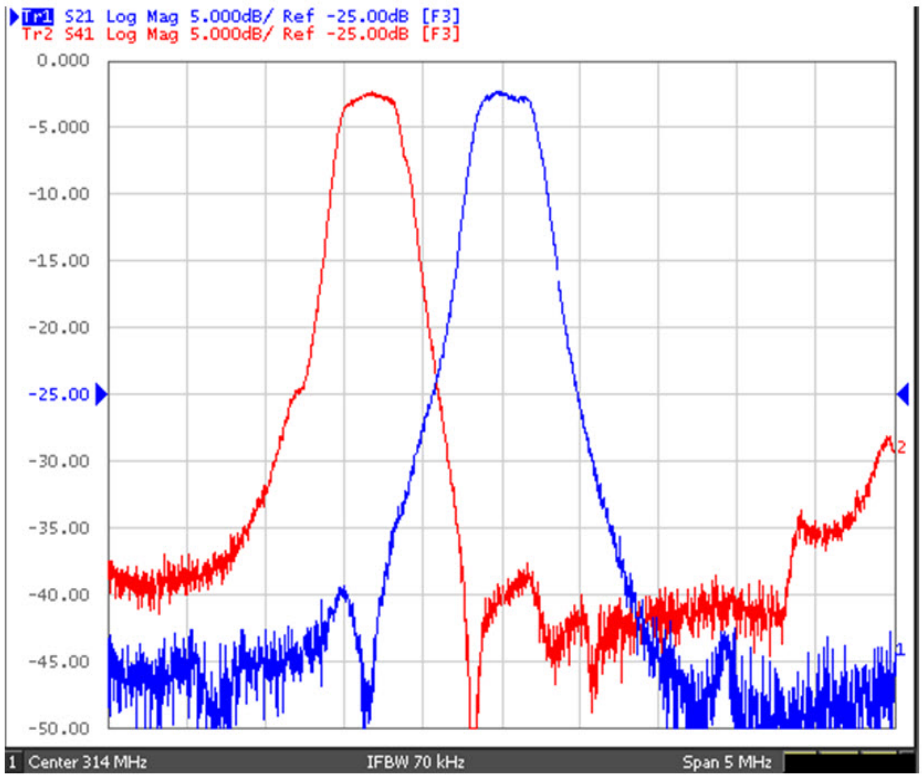
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Measurement Circuit

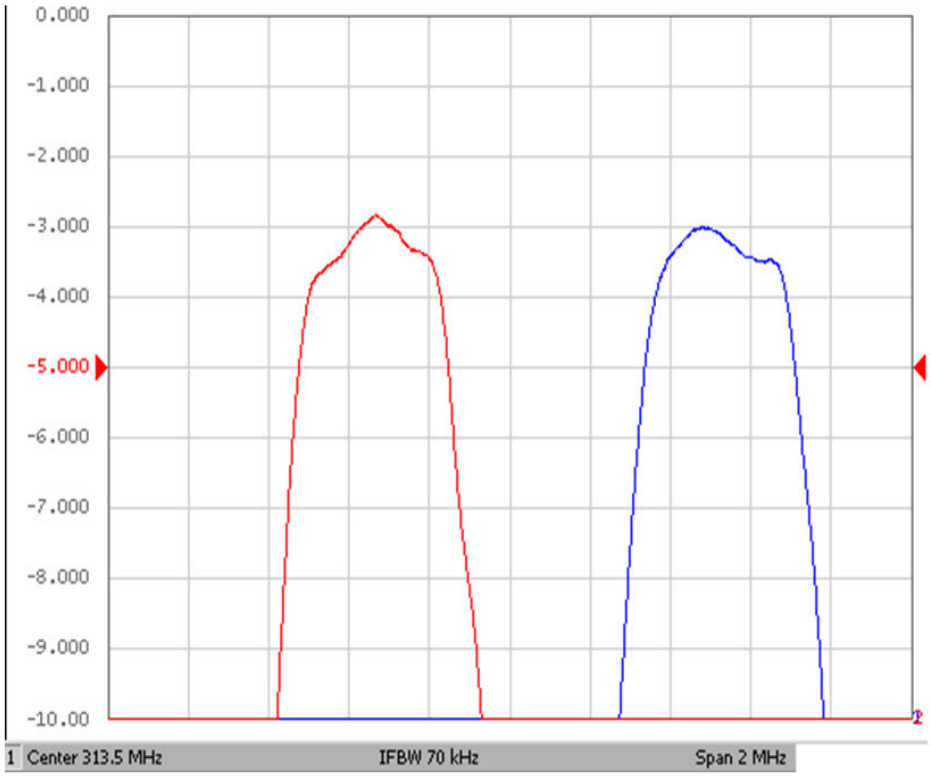


Frequency Characteristics

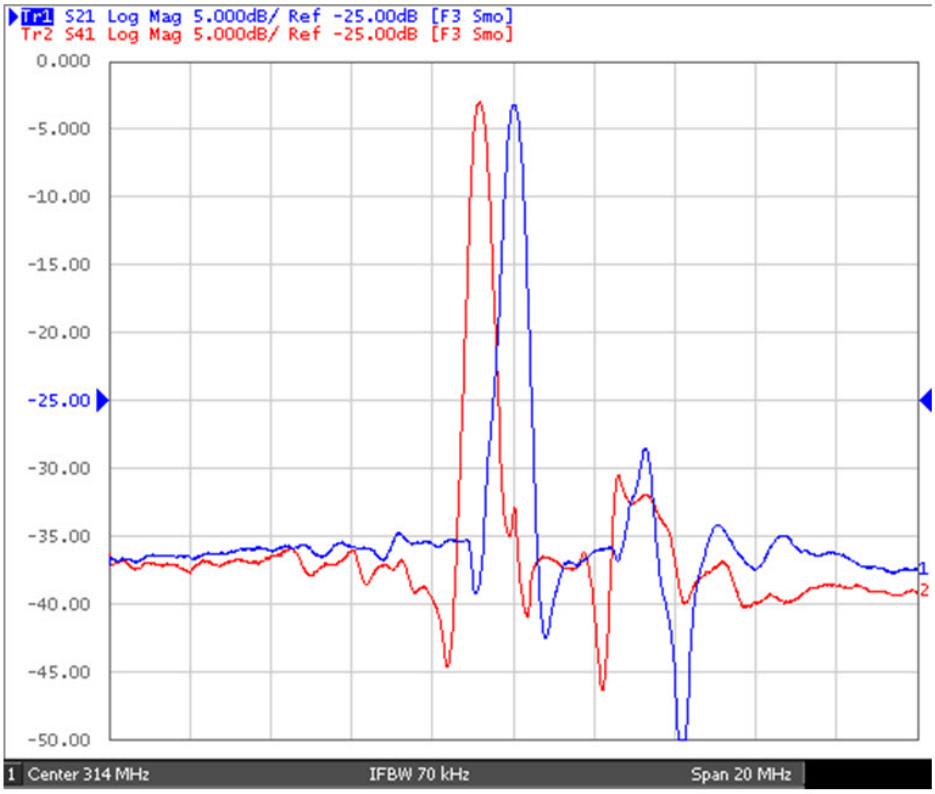
S21: Span 5MHz



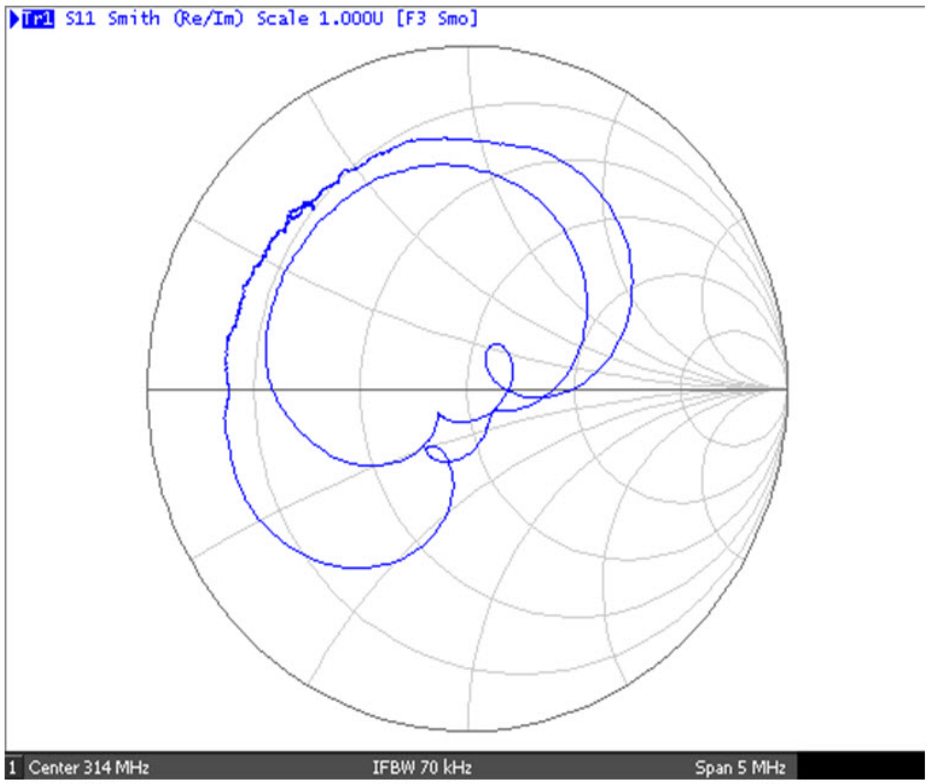
S21: Span 5MHz



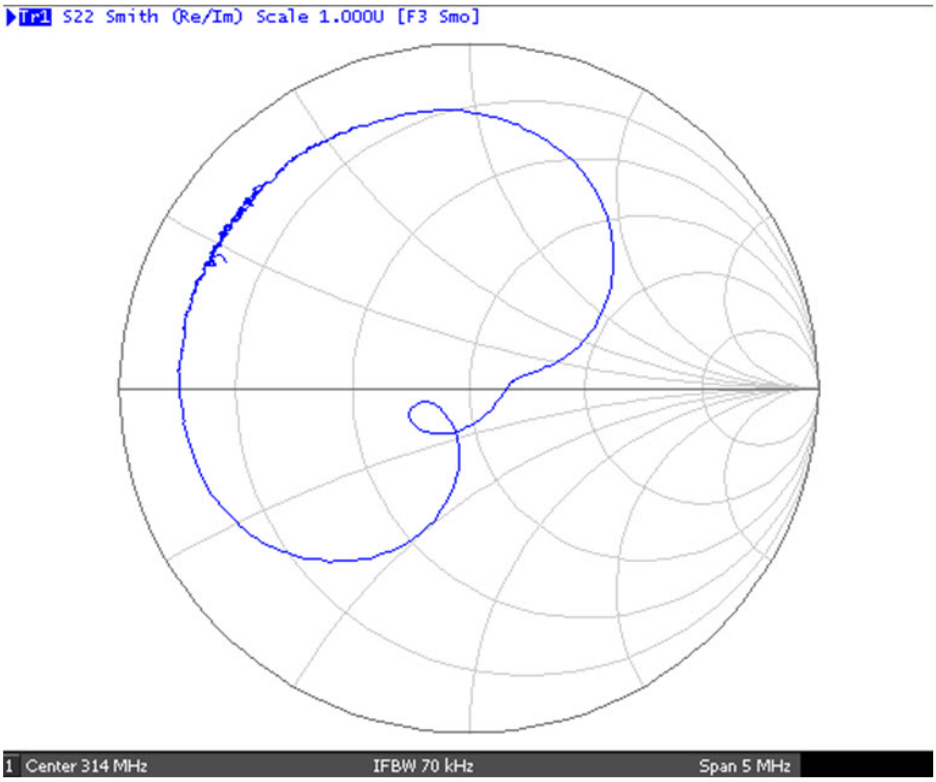
S21: Span 20MHz



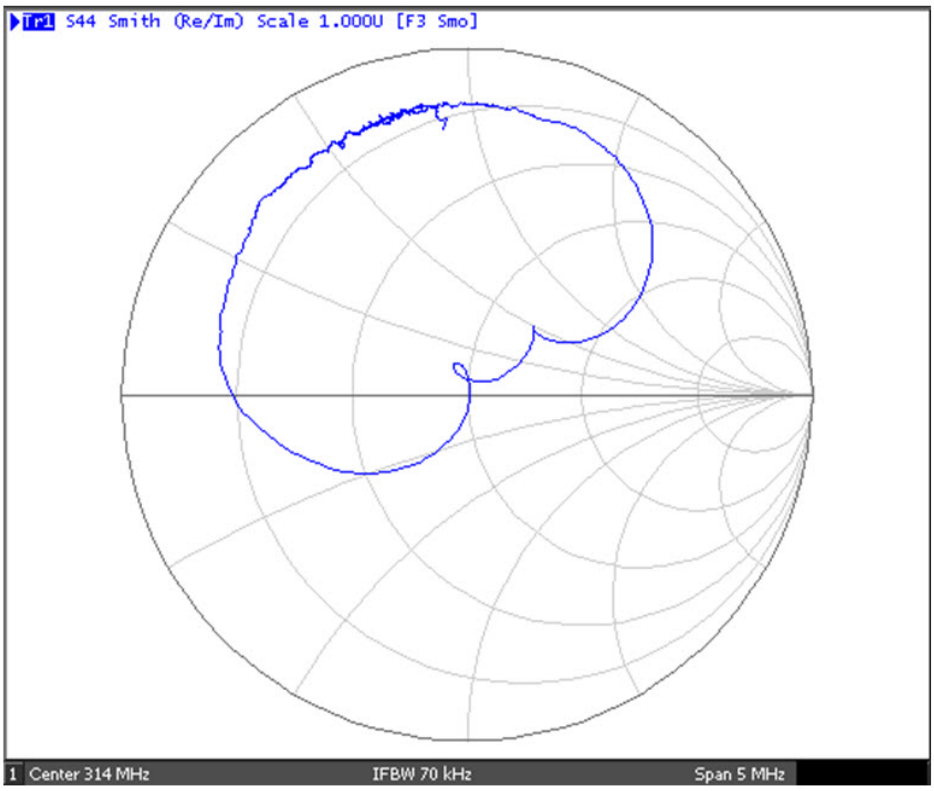
S11 (I/P)



S22: (O/P-2)



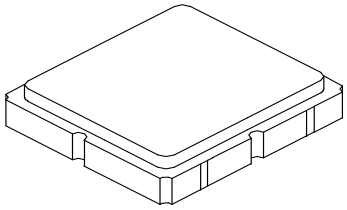
S44 (O/P_1)

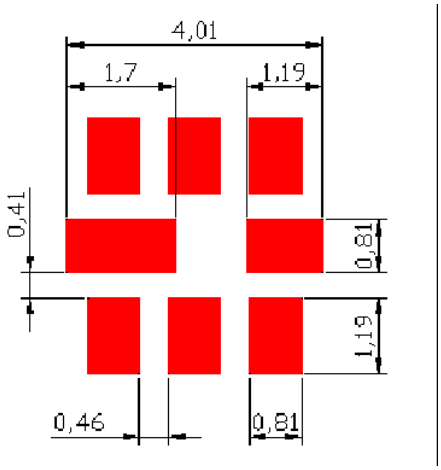

Tr1 S44 Smith (Re/Im) Scale 1.000U [F3 Smo]
1 Center 314 MHz
IFBW 70 kHz
Span 5 MHz

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	-

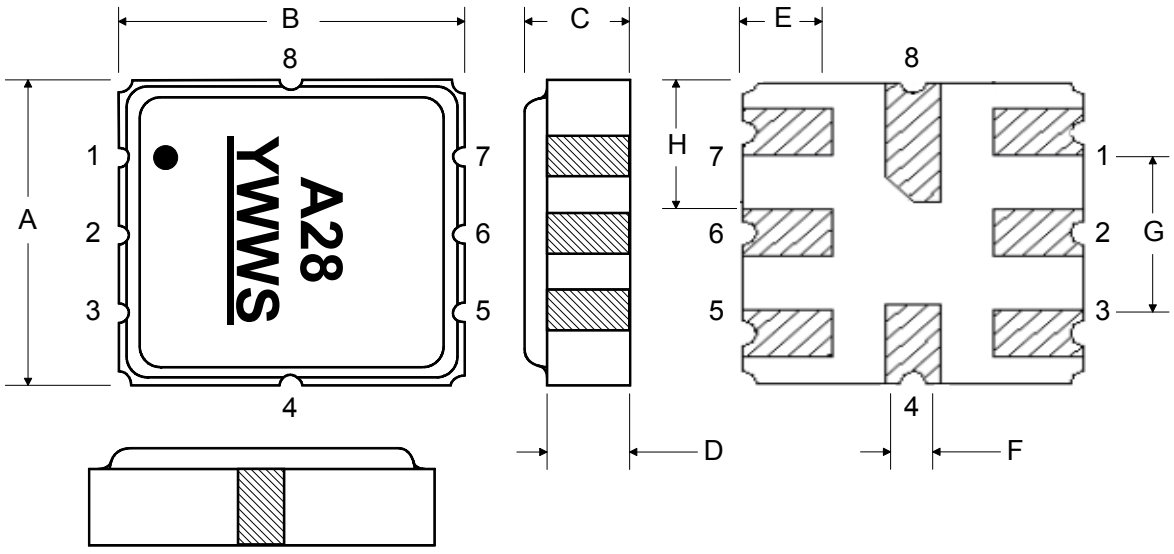
Electrical Connections

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

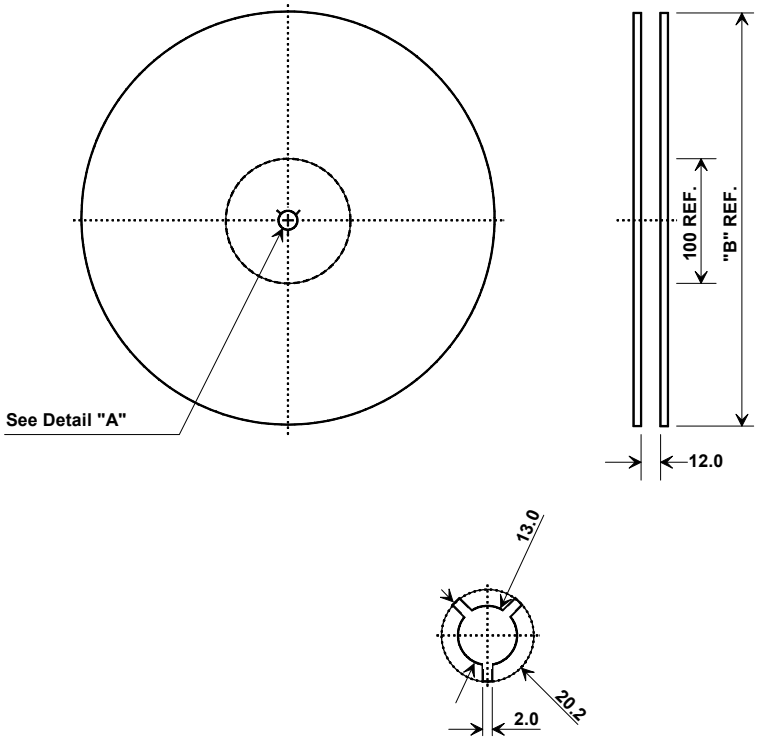
TOP VIEW

BOTTOM VIEW



Tape and Reel Specifications

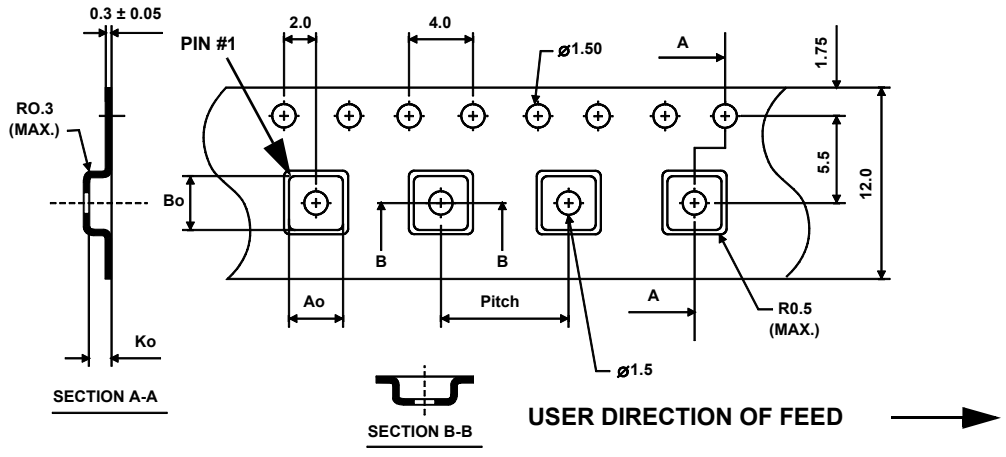
Tape and Reel Standard per ANSI/EIA-481



"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.