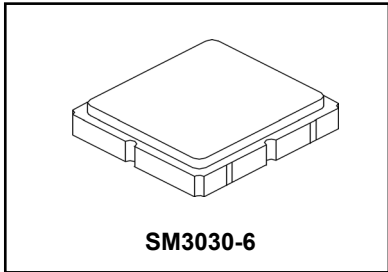


SF2275E-1

1542 MHz SAW Filter



- 1542.5 MHz Low-loss SAW Filter
- Surface Mount 3.0 x 3.0 mm Package

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	15	dBm
DC Voltage on any Non-ground Terminal	5	V
Specification Temperature Range	-40 to +105	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Operable Temperature Range	-40 to +125	°C
Solder Reflow Temperature, 10 seconds, 5 cycles maximum	260	°C

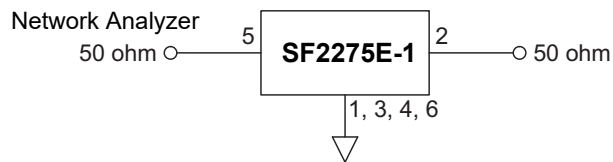
Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_c			1542		MHz
3 dB Bandwidth				50		
Insertion Loss, 1525 to 1559 MHz	IL			2.8	3.0	dB
Return Loss				10		dB
Amplitude Ripple, 1525 to 1559 MHz				1.6	2.0	dB _{P-P}
Group Delay Ripple 1525 to 1559 MHz (2 MHz sliding window) 1525 to 1559 MHz (total pass band)				8	10.0	ns
				21	25.0	
Attenuation, Referenced to 0 dB	0.3 to 1300 MHz		30	37		dB
	1300 to 1480 MHz		25	39		
	1630 to 3500 MHz		30	32		
	3500 to 5000 MHz			28		
	5000 to 6000 MHz			16		
Source Impedance	Z_s			50		Ω
Load Impedance	Z_L			50		
Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	8U, <u>YWW</u> S					
Standard Reel Quantity	Reel Size 7 Inch					500 Pieces/Reel
	Reel Size 13 Inch					3000 Pieces/Reel

Electrical Connections

Connection	Terminals
Input	2
Output	5
Ground	All Others

Measurement Circuit



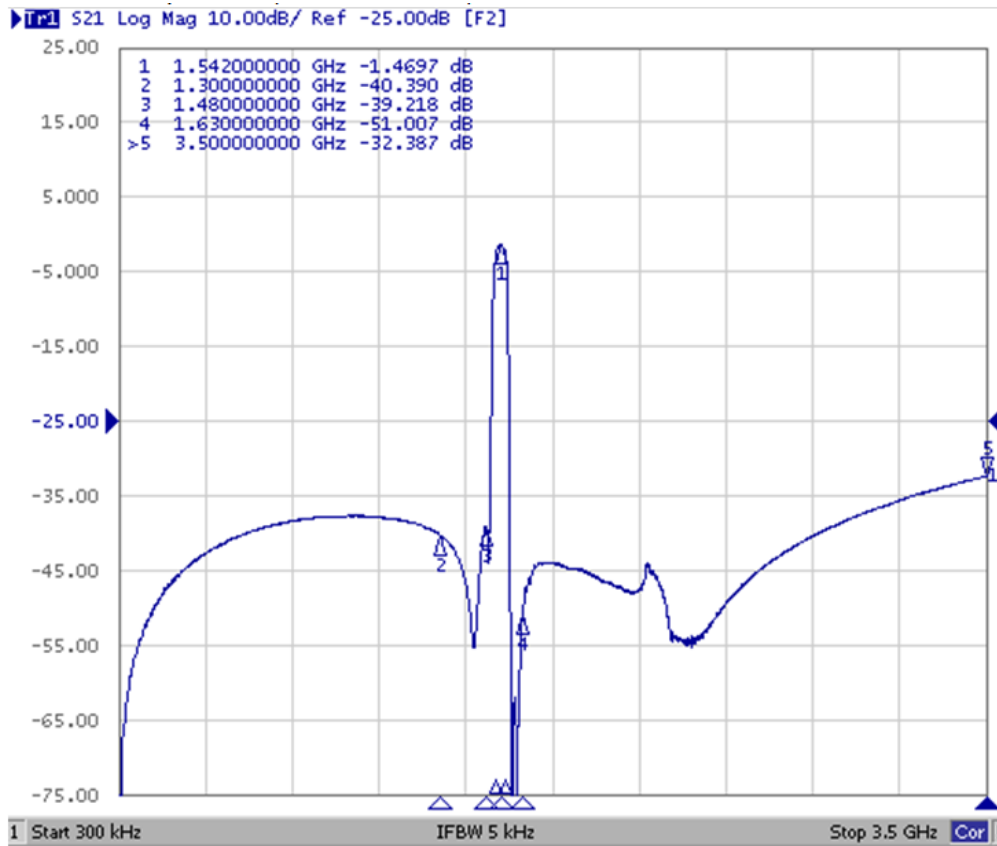
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

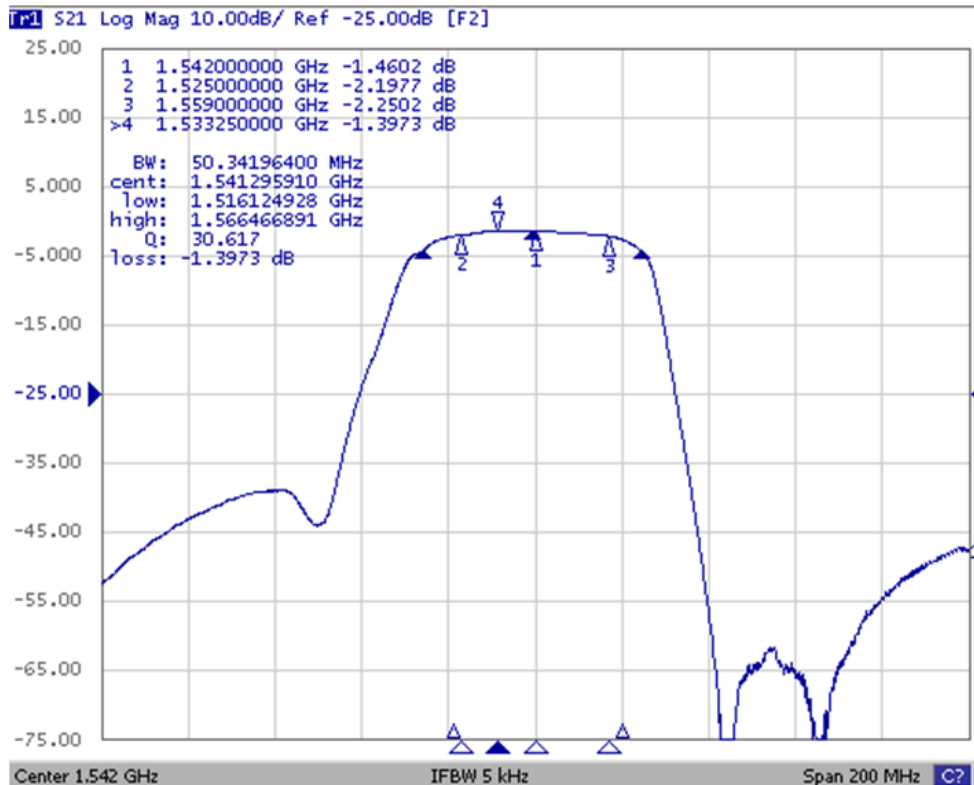
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal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

Frequency Characteristics

Wideband Response: (0.3 to 3500 MHz)



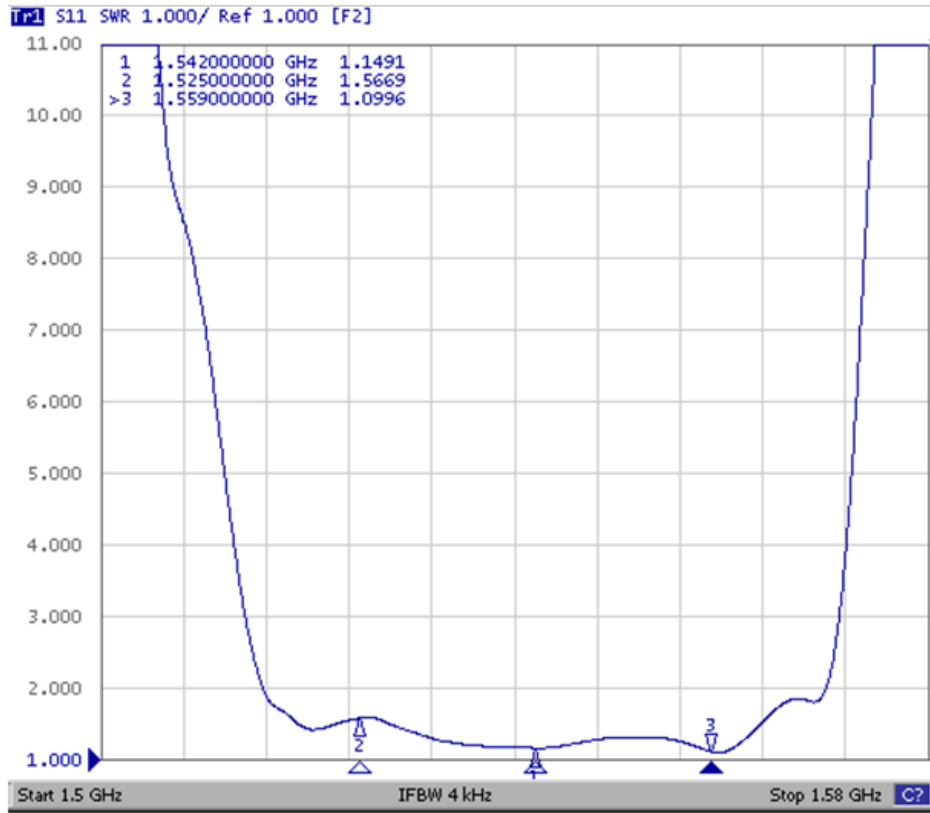
Narrowband Response: (span 200 MHz)



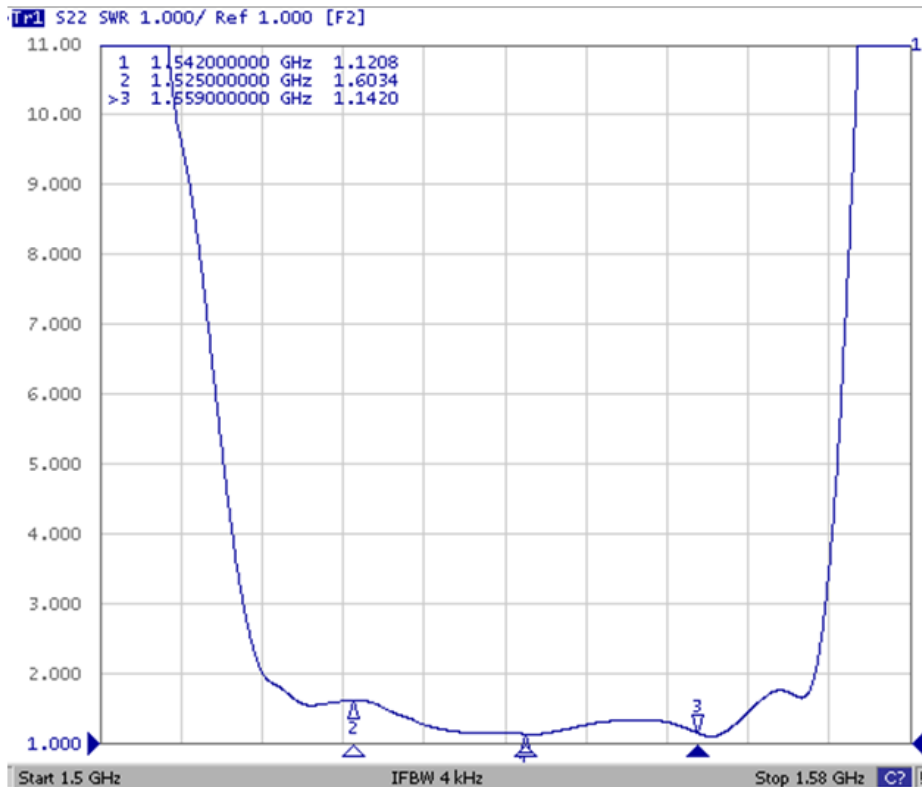
Frequency Characteristics

VSWR (span 200 MHz)

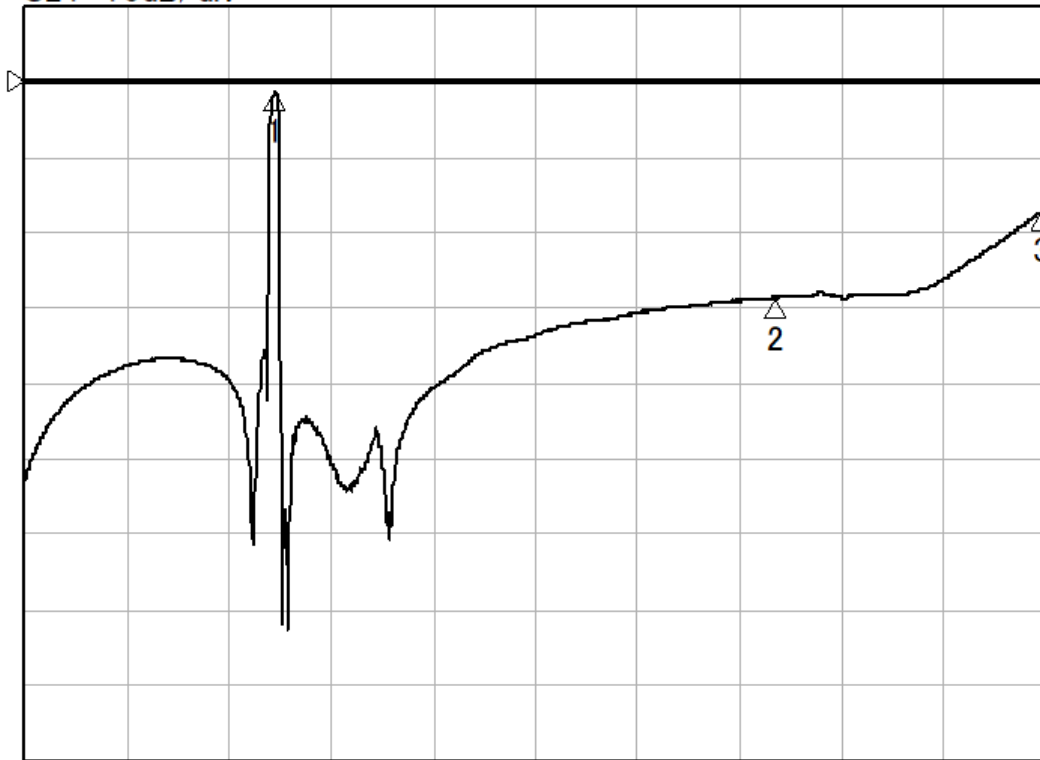
S11



S22



S21 10dB/div



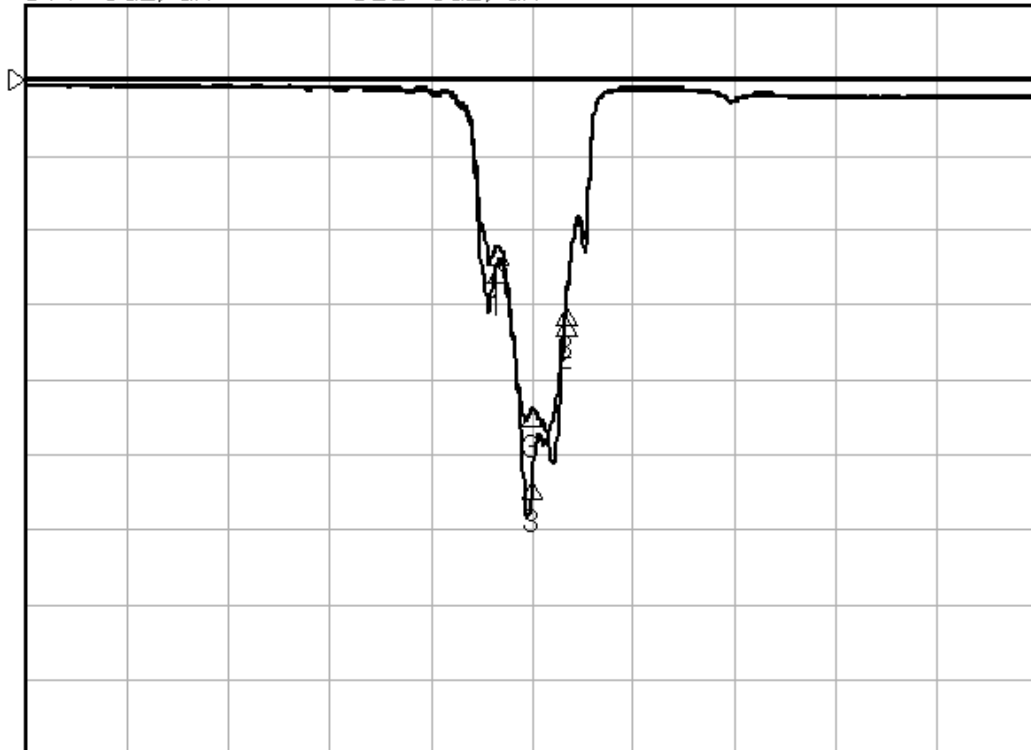
- M1 1541.28 MHz
-1.441 dB
- M2 4431.55 MHz
-28.660 dB
- M3 5973.02 MHz
-17.251 dB

START 100.00 MHz

STOP 6000.00 MHz SF2275E-1

S11 5dB/div

S22 5dB/div



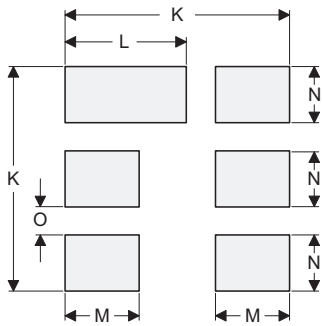
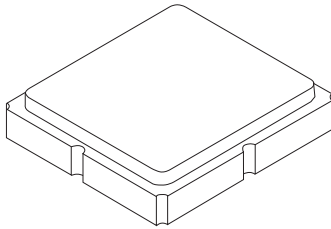
- M1 1525.00 MHz
-12.207 dB
- M2 1559.00 MHz
-15.802 dB
- M3 1542.66 MHz
-21.795 dB

START 1292.50 MHz

STOP 1792.50 MHz SF2275E-1

SM3030-6 Case

6-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint



PCB Land Pattern
Top View

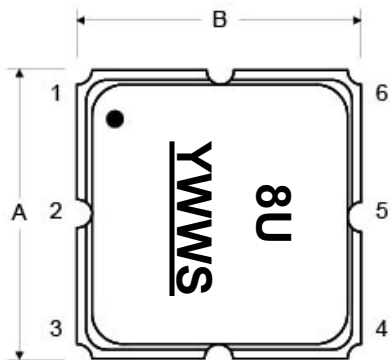
Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.50	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
J	1.17	1.30	1.43	0.046	0.051	0.056
K		3.20			0.126	
L		1.70			0.067	
M		1.05			0.041	
N		0.81			0.032	
O		0.38			0.015	
P	0.15	0.30	0.45	0.005	0.011	0.017
Q	0.07	0.20	0.36	0.002	0.007	0.014
R	0.62	0.7	0.78	0.024	0.027	0.030

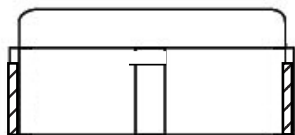
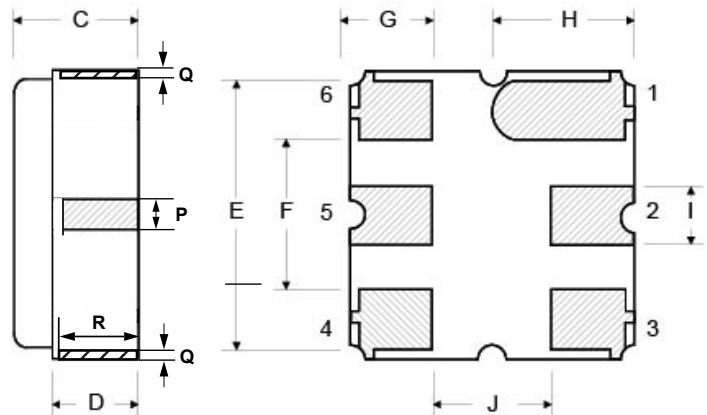
Case Materials

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
	Pb Free

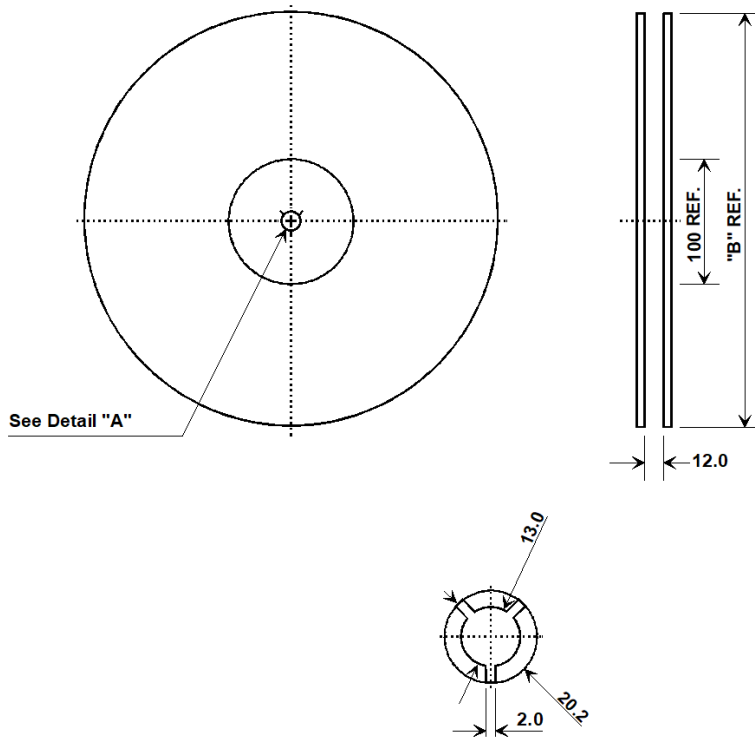
TOP VIEW



BOTTOM VIEW



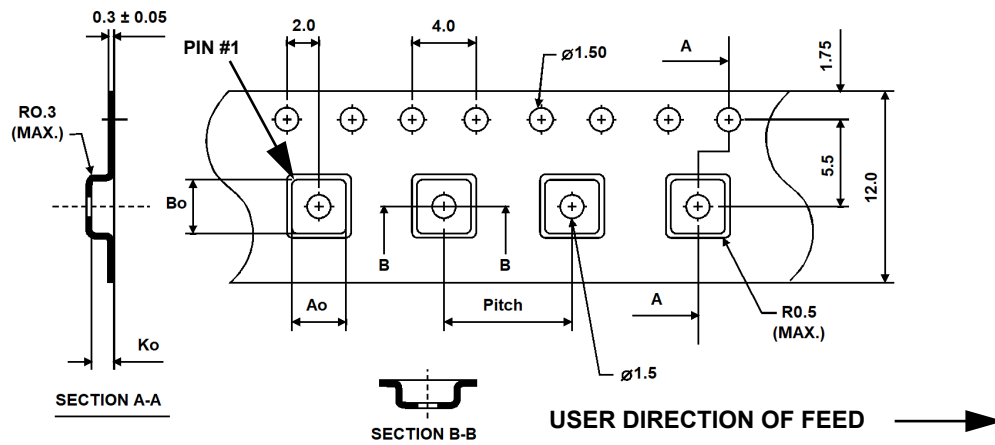
Tape and Reel Specifications



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

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.3 mm
Bo	3.3 mm
Ko	1.6 mm
Pitch	8.0 mm
W	12.0 mm



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