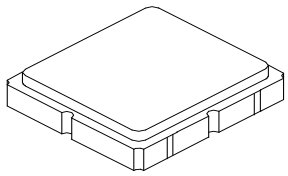
RFMi
A BRAND OF AKOUSTIS

RoHS compliant

SF1186B-2

1575.42 MHz SAW Filter

- ***Designed for Front-end GPS Applications***
- ***Low Insertion Loss***
- ***3.0 x 3.0 x 1.3 mm Surface-mount Case***
- ***No Matching Network Required***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Moisture Sensitivity Level: 1***
- ***AEC-Q200 Qualified***



SM3030-6

Maximum Ratings

Rating	Symbol	Value	Units
Maximum Input Signal Level		+10	dBm
DC Voltage on any Non-ground Terminal	WVdc	4	Volts
Operable Temperature Range		-45 to +125	°C
Storage Temperature Range	T_{STG}	-40 to +105	°C
Lead Soldering Temperature for 10 Seconds	T_{WAVE}	260	°C
Peak Reflow Solder Temp for 40 Seconds	T_{Reflow}	235	°C
Suitable for Lead-free Soldering - Max Soldering Temperature		260°C for 30 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_O			1575.42		MHz
1 dB Bandwidth	BW_1		2.046	15.3		MHz
Passband Amplitude Ripple, f_O ±2.0 MHz				0.1	1.0	dB_{P-P}
Passband Group Delay				27		ns
Passband Group Delay Ripple, f_O ±2.0 MHz				1		ns_{P-P}
Passband VSWR, f_O ±2.0 MHz				1.4	2.0	
Insertion Loss				2.68	3.5	dB
Attenuation Referenced to 0 dB:						
850 MHz			45	51.2		dB
1500 MHz			40	52.7		
1535.42 MHz			20	38.9		
1615.42 MHz			20	58.8		
1640 MHz			45	59.1		
1700 MHz			50	56.7		
Temperature Coefficient			-30			ppm/°C
Operating Temperature	T_A		-40		+85	°C
Single-ended Input /Output Impedance Match	No matching network required for operation at 50 ohms					
Case Style	SM3030-6 3 x 3 mm Nominal Footprint					
Lid Symbolization y=year, ww=week, s=shift	468 YWWS					
Standard Reel Quantity Reel Size 7 Inch			500 Pieces/Reel			
Reel Size 13 Inch			3000 Pieces/Reel			

Electrical Connections

Pin #	Description	Pin #	Description
1	Ground	4	Ground
2	Input	5	Output
3	Ground	6	Ground

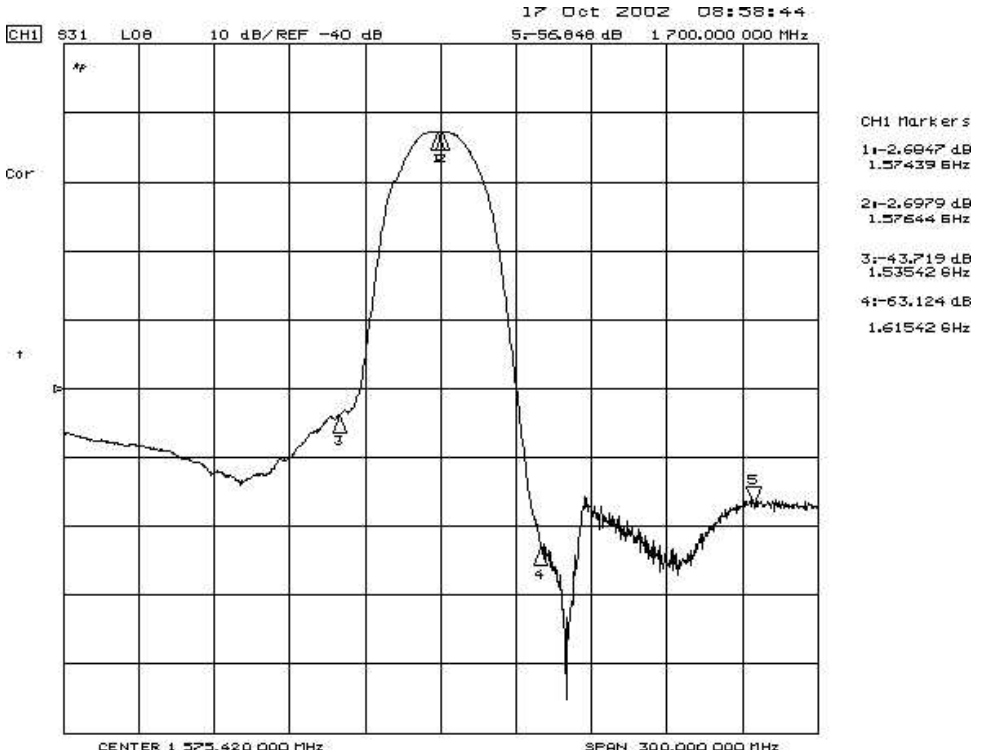
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

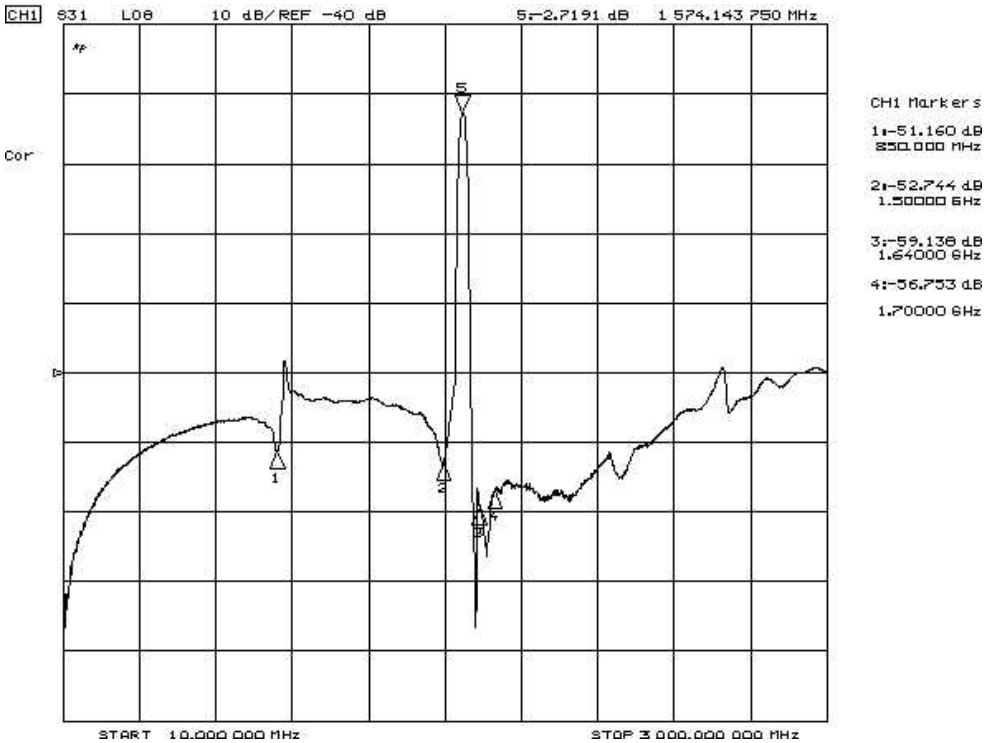
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Transfer function :

(1) S21 response (span : 300 MHz)

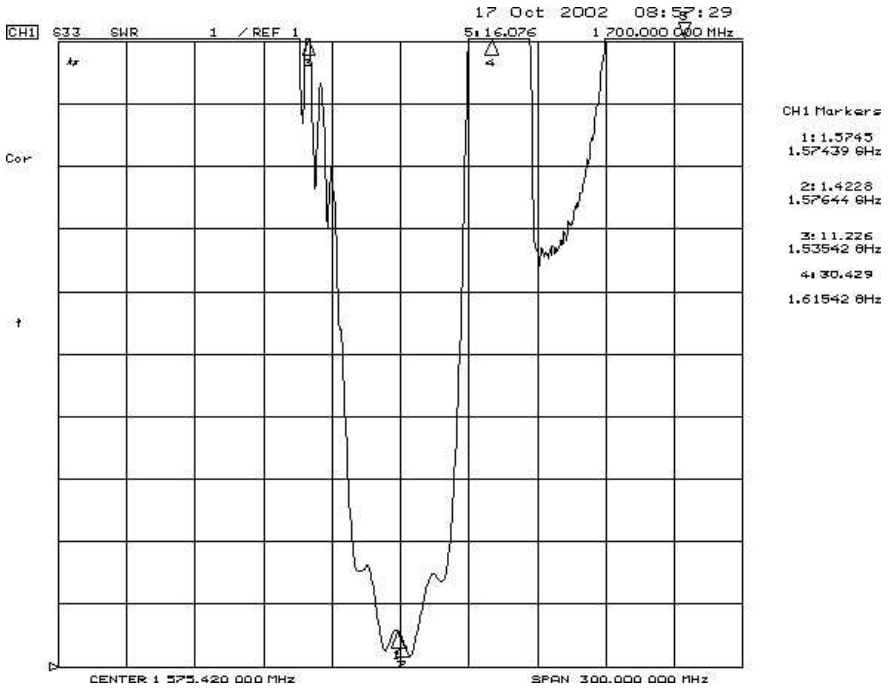


(2) S21 response (span : 3 GHz)

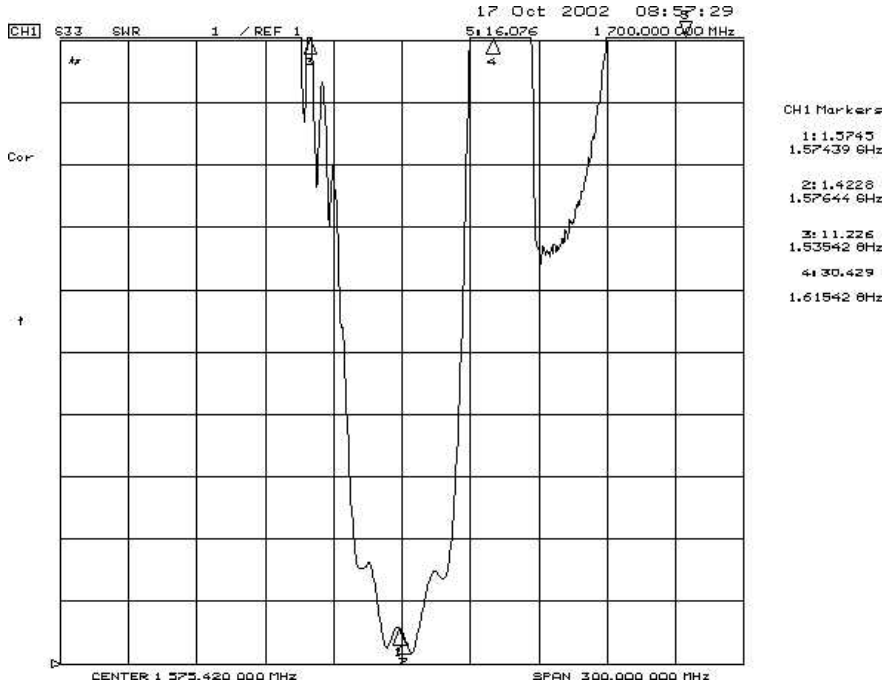


Reflection Functions:

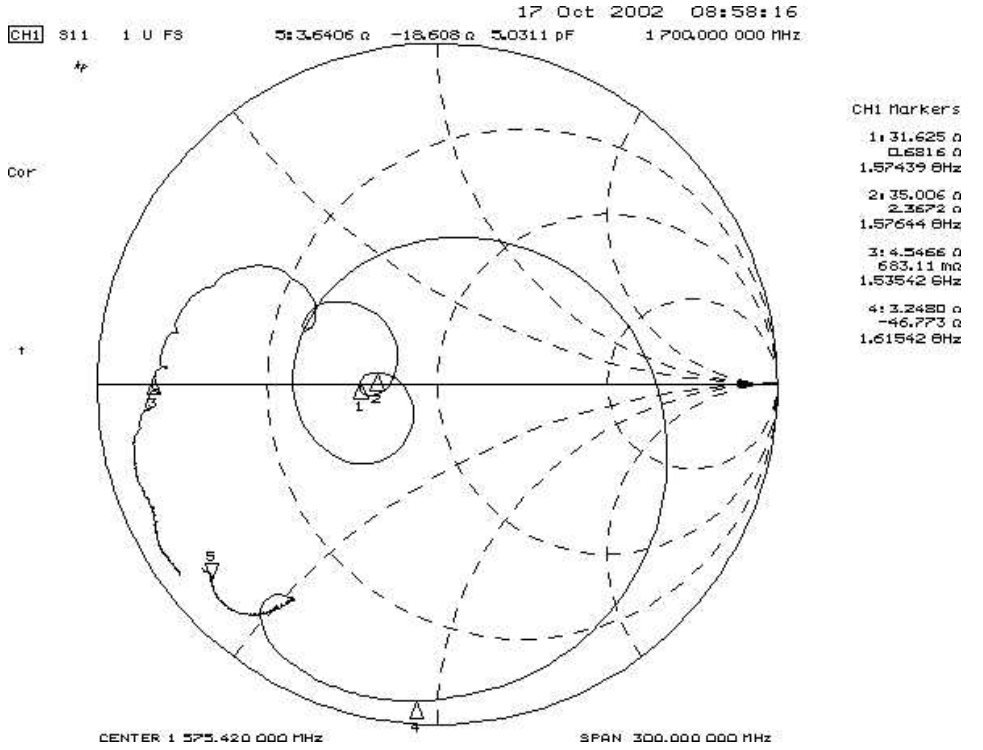
S11

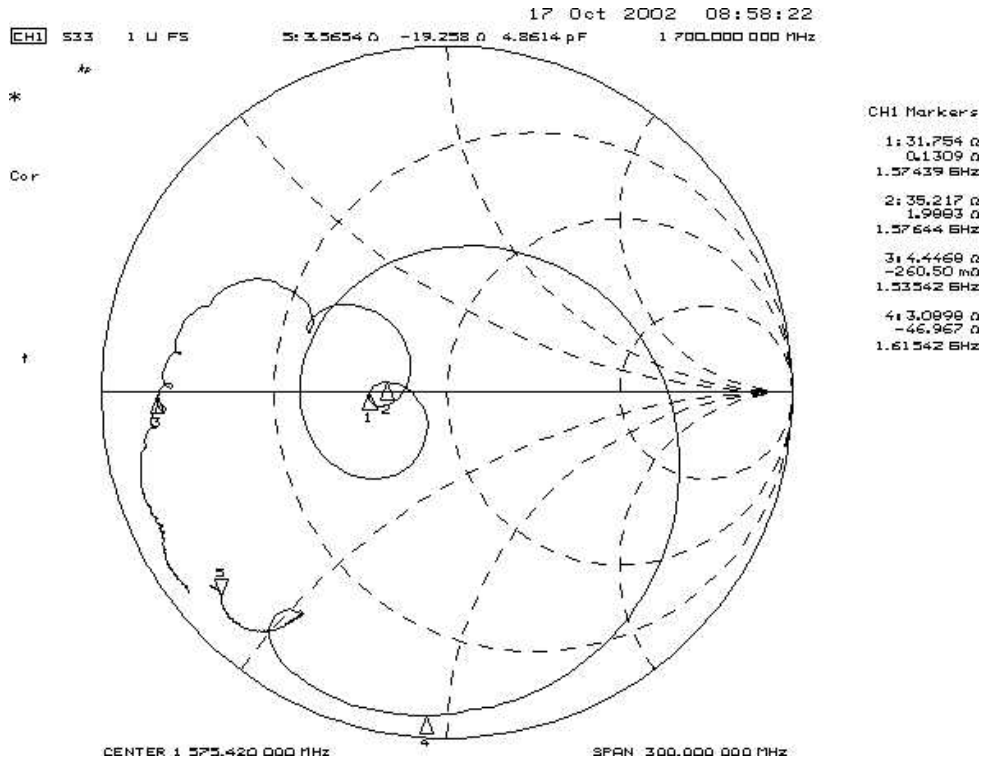


S22

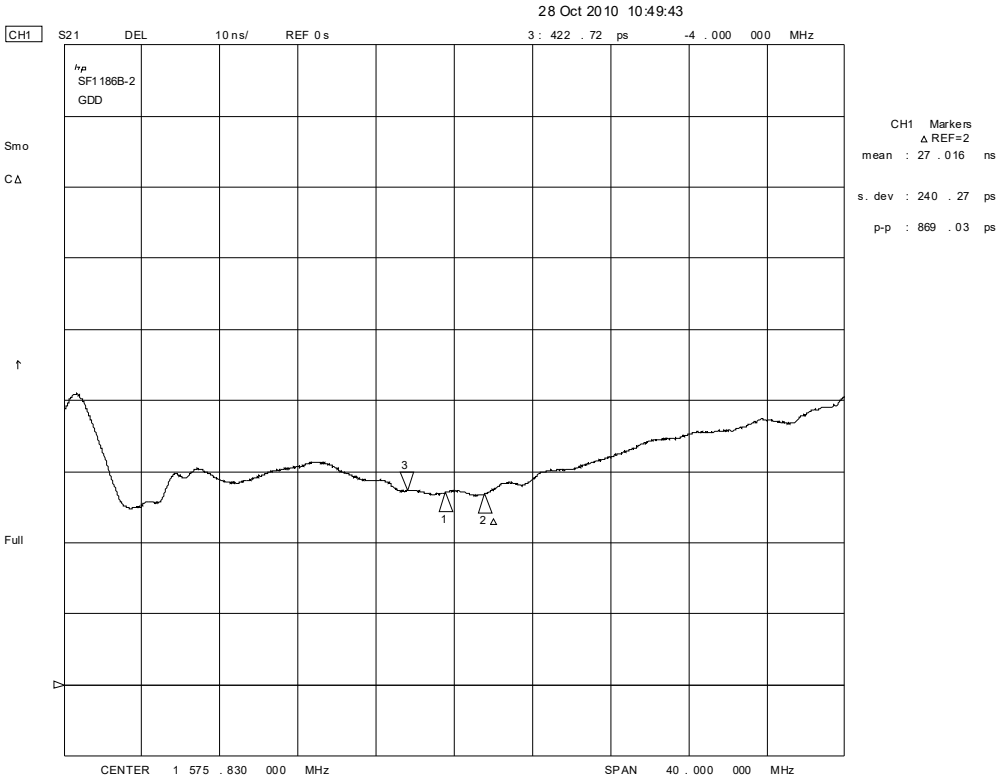


Reflection Functions:



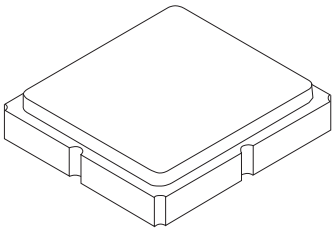


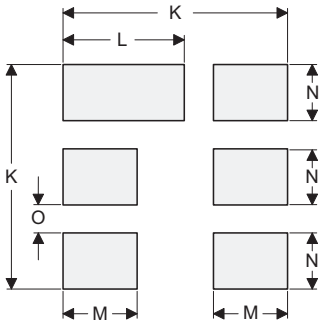
Group Delay:



SM3030-6 Case

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





PCB Footprint Top View

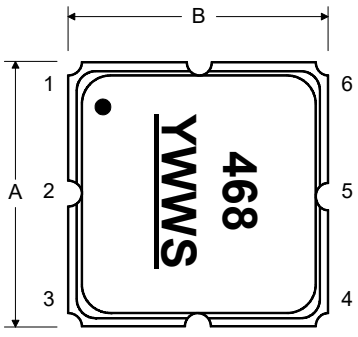
Case and PCB Footprint Dimensions

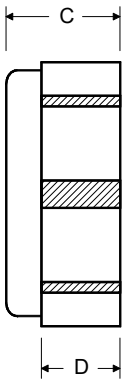
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	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	

Case Materials

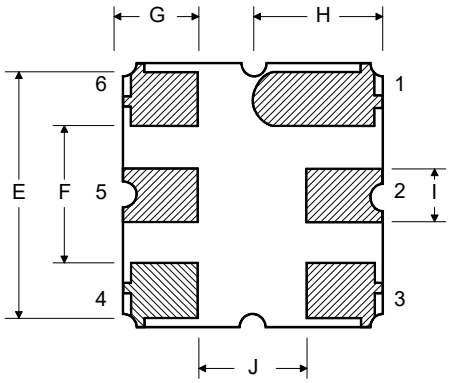
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic

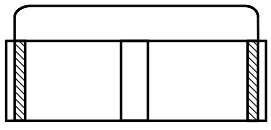
TOP VIEW





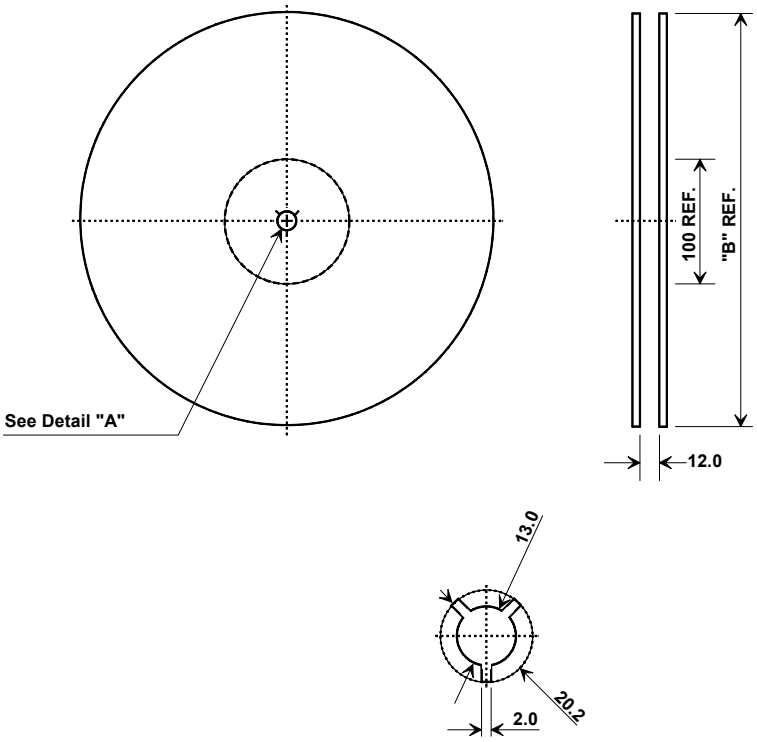
BOTTOM VIEW





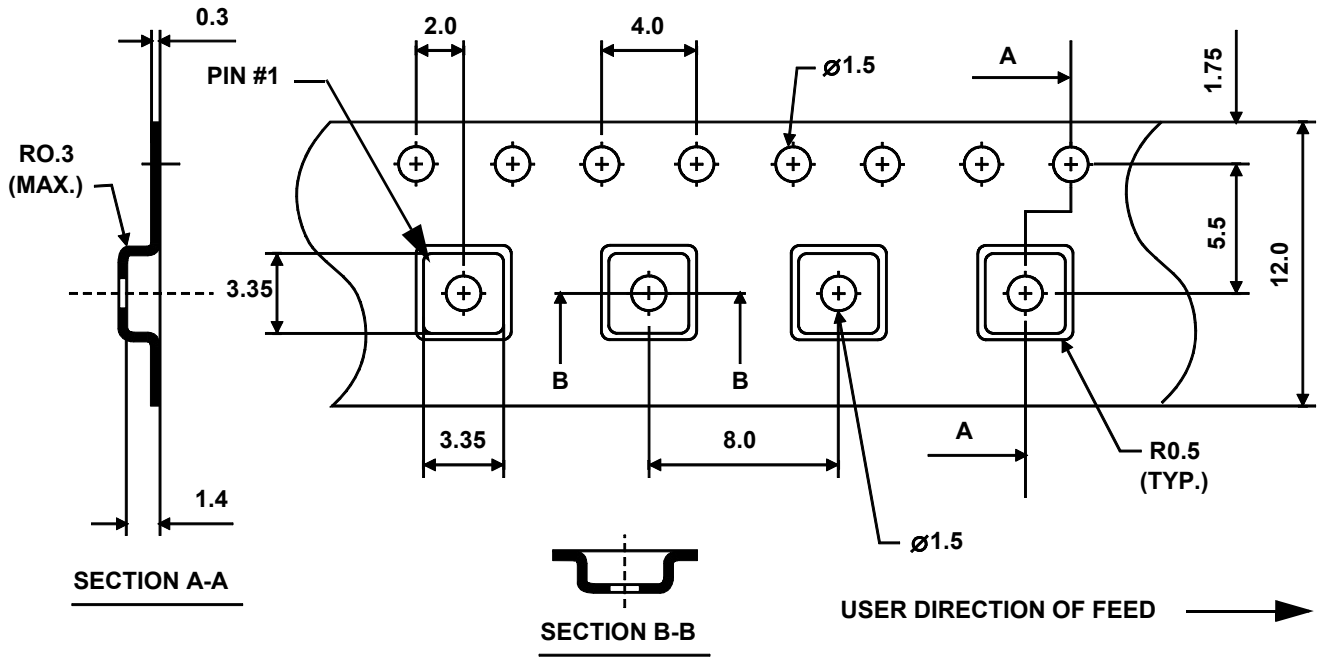
Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481



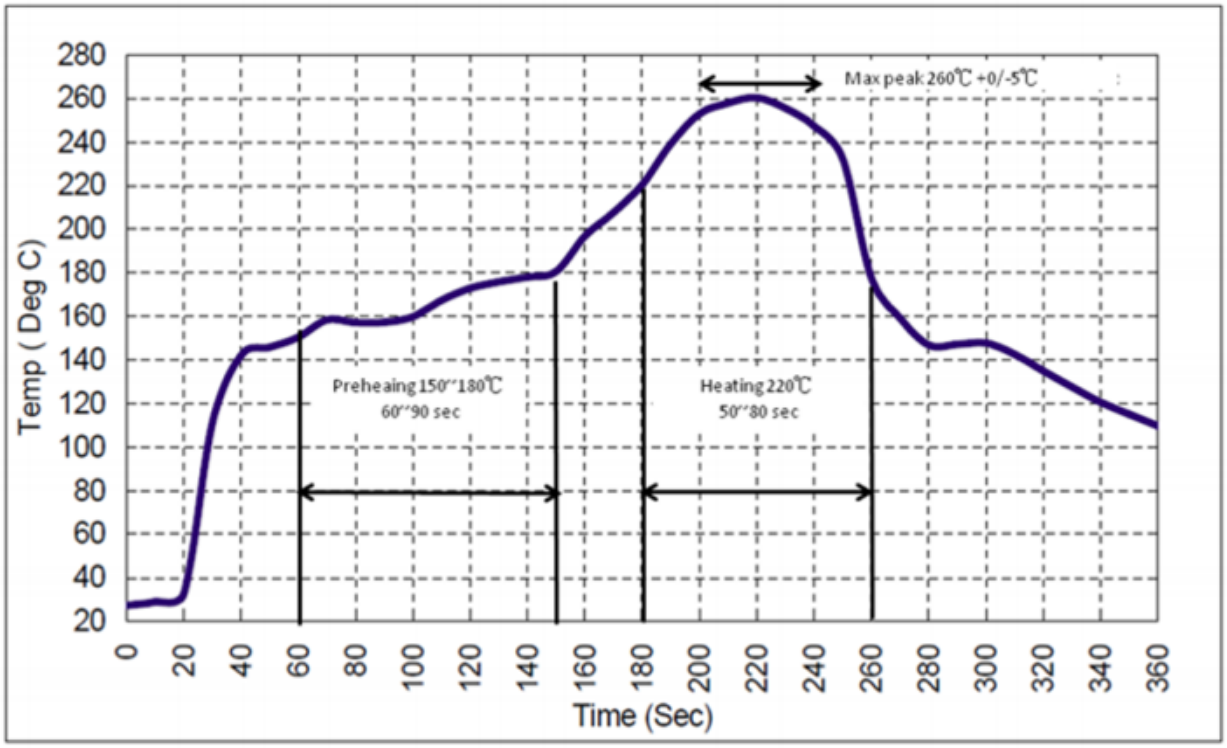
"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

COMPONENT ORIENTATION



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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Authorized Distributor

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