

SAW Filter 434.7MHz

MODEL NO.:TA1820A

REV. NO.:2.0

A. MAXIMUM RATING:

1. Input Power Level: 13 dBm
2. DC Voltage : 0V
3. Operating Temperature: -40 °C to +105 °C
4. Storage Temperature: -40 °C to +105 °C
5. Moisture Sensitivity Level: Level 1(MSL1)



Electrostatic Sensitive Device (ESD)

6. B. ELECTRICAL CHARACTERISTICS:

- Terminating source impedance (single) : $Z_s = 50 \Omega$
Terminating load impedance(single) : $Z_L = 50 \Omega$

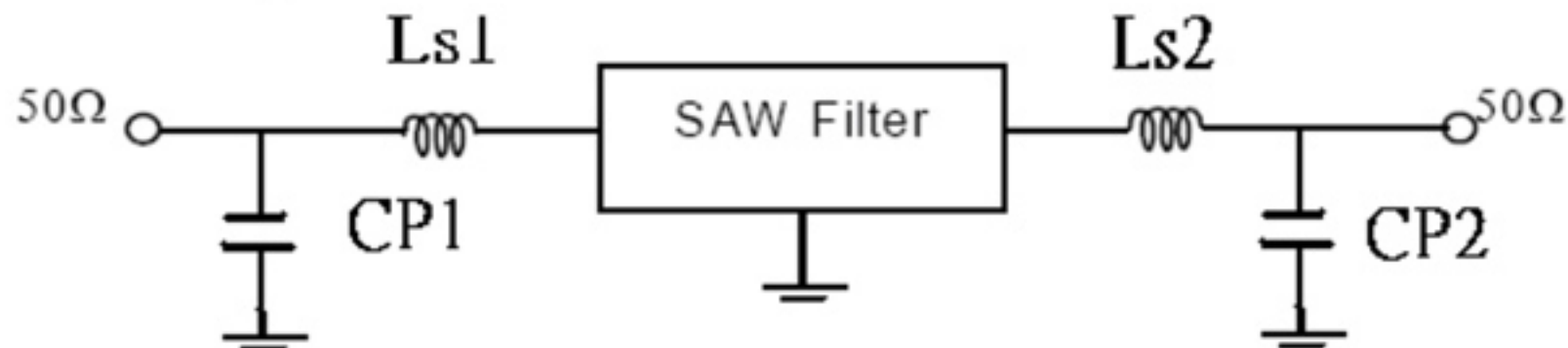
Item	Unit	Min	Type.	Max
Center Frequency F_c	MHz	-	434.7	-
Minimum Insertion Loss α_{min}				
Incl. Loss in matching elements (434.165 ~ 435.235 MHz)	dB		2.2	2.9
Excl. Loss in matching elements(434.165 ~ 435.235 MHz)	dB		1.4	2.1
Pass Band (Relative to α_{min})				
434.165 ~ 435.235 MHz ¹			1.1	2.5
434.15 ~ 435.25 MHz ²			1.3	3.0
Relative Attenuation (Relative to α_{min}) α_{rel}				
10 ~ 350 MHz	dB	50	55	
350 ~ 414 MHz	dB	30	35	
414 ~ 425 MHz	dB	30	35	
425 ~ 433 MHz	dB	13	17	
436.7 ~ 437.3 MHz	dB	13	17	
437.3 ~ 438 MHz	dB	22	27	
438 ~ 446 MHz	dB	25	30	
446 ~ 455 MHz	dB	25	30	
455 ~ 480 MHz	dB	28	33	
480 ~ 800 MHz	dB	40	45	
800 ~ 1700 MHz	dB	52	57	
1700 ~ 2500 MHz	dB	42	47	

Package size	mm	SMD 3x3	
Impedance for pass band matching)			
Input: $Z_{IN} = L_{s1}/C_{p1}$	nH	82/8.2	
Output: $Z_{OUT} = L_{s2}/C_{p2}$	nH	68/1	

- 1) 433.913 ... 434.928 MHz for extended temperature range $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$.
 - 2) 433.898 ... 434.943 MHz for extended temperature range $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$.
- 0805 Coilcraft CS series chip conductor is used for inductor.
0402 muRata GRM series is used for capacitor.

C.. TEST CIRCUIT:

The matching circuit is

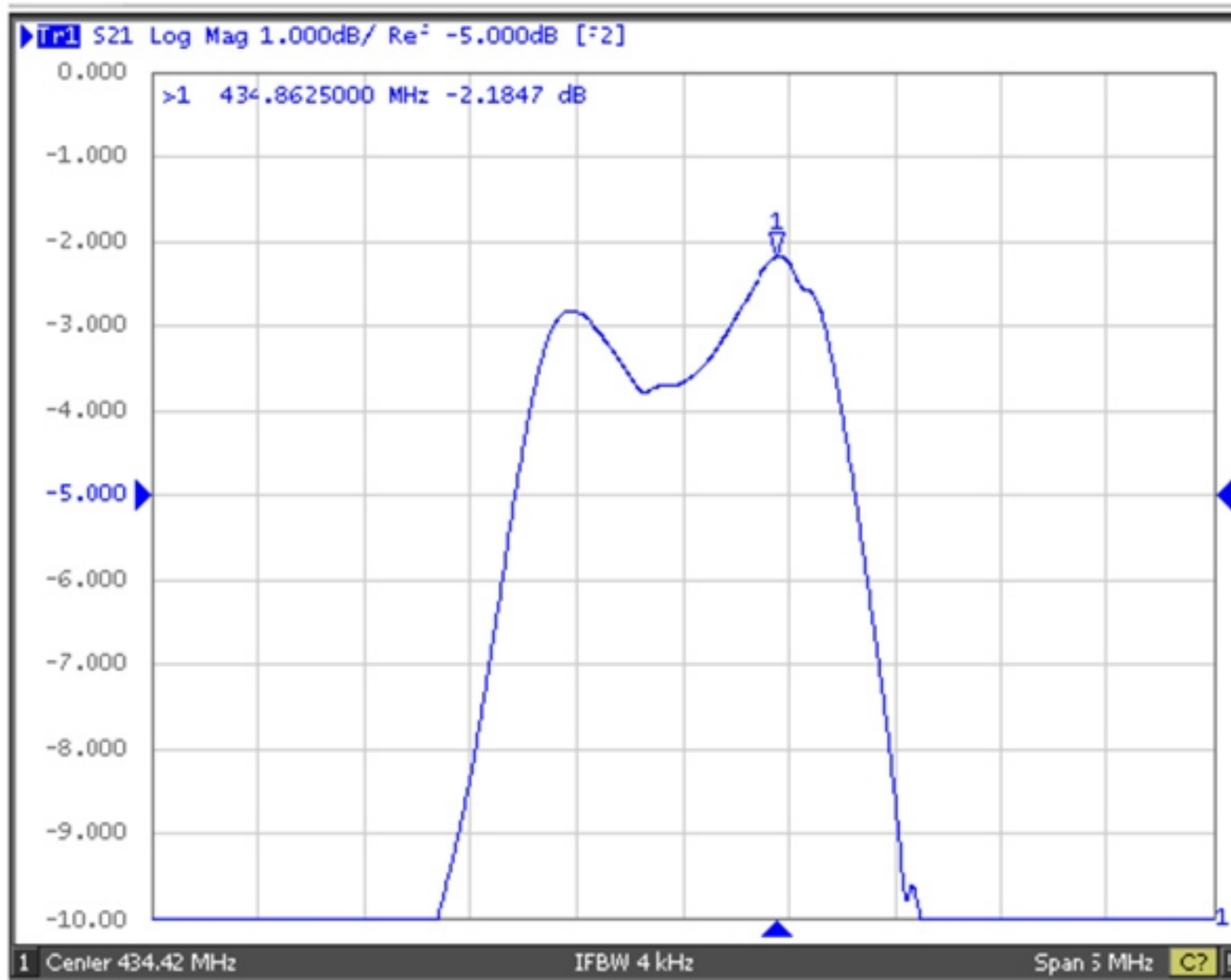


$L_{s1}=82\text{nH}$; $L_{s2}=68\text{nH}$; $C_{p1}=8.2\text{ pF}$; $C_{p2}=1\text{pF}$

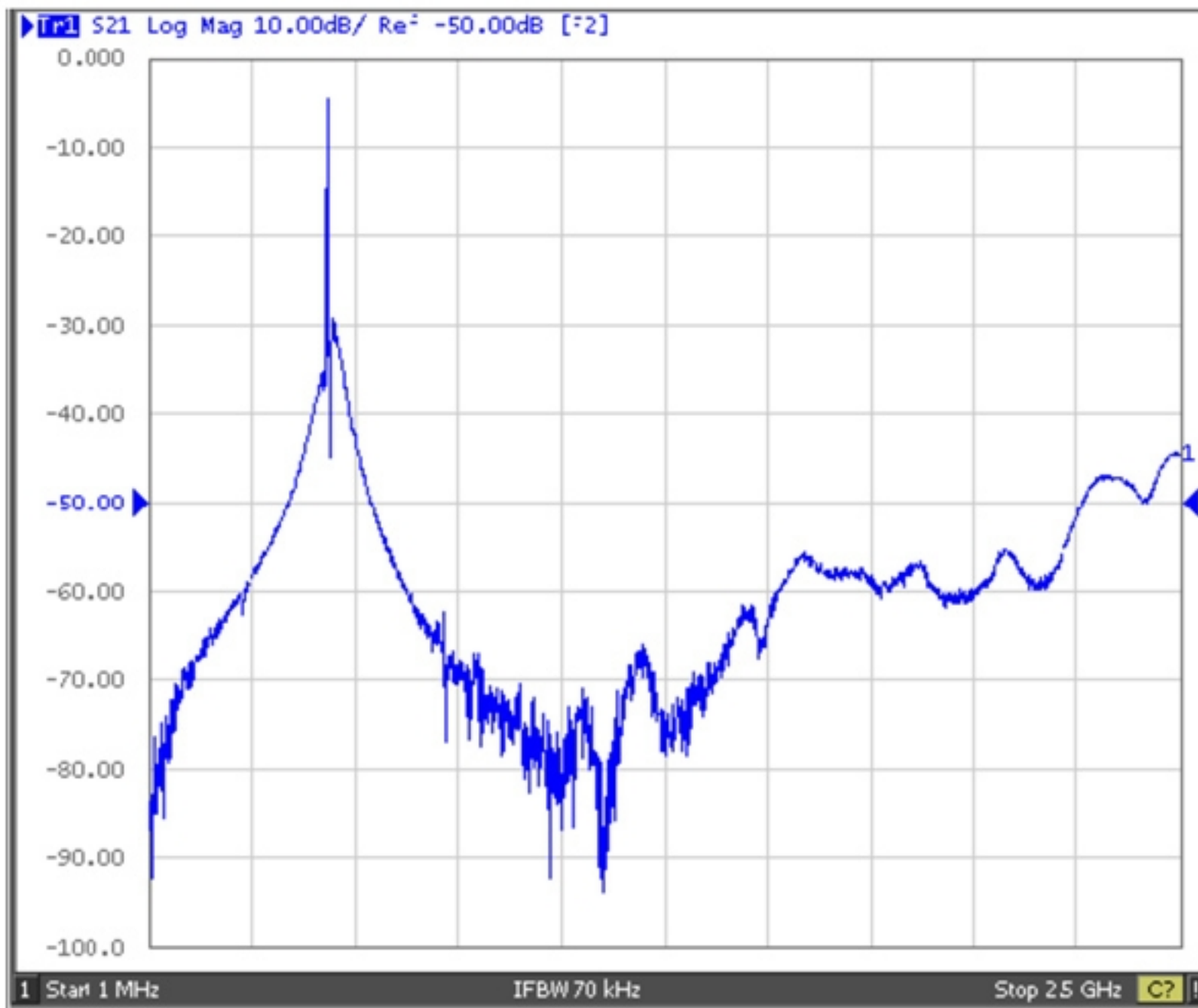
D. Frequency Characteristics :
S21 response: span 20MHz



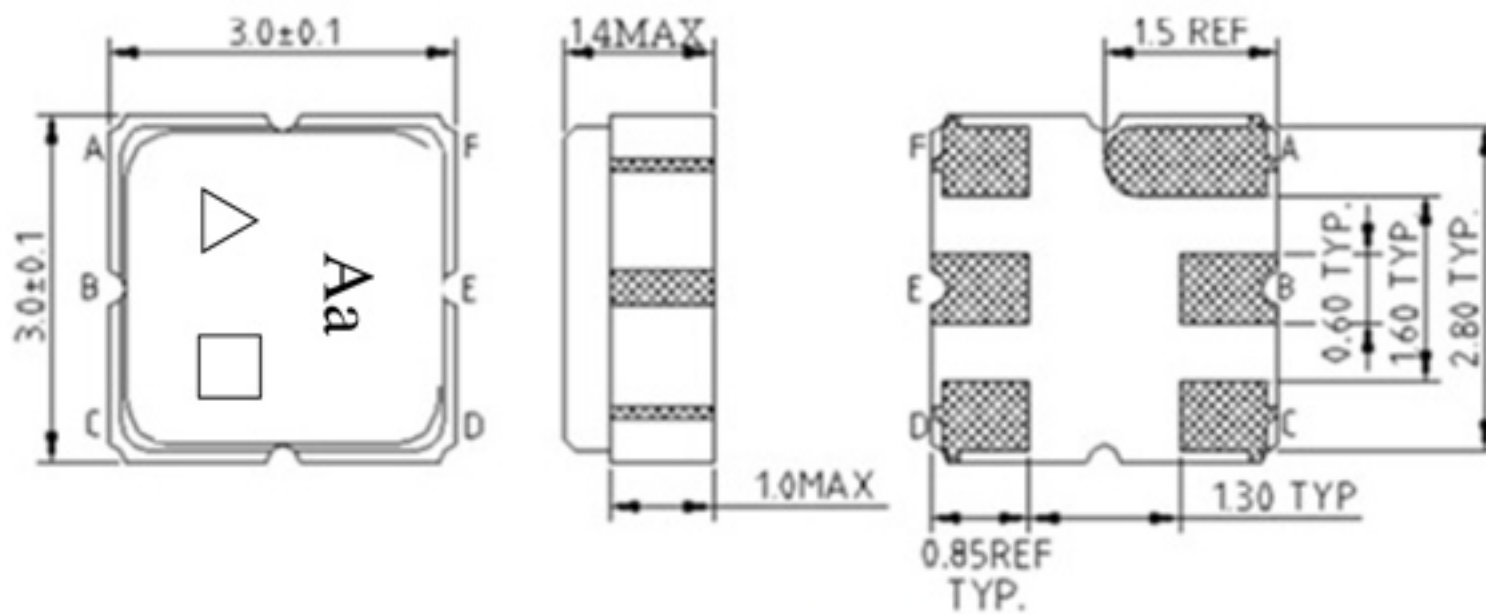
S21 response: span 5MHz



S21 response: 1MHz ~ 2.5GHz



E.OUTLINE DRAWING:



- #B: Input
- #E: Output
- # A,C,D,F Ground
- △:Year code (ex 2008→8)
- : Date code
- Unit: mm

Data code : See the table

WK	01	02	...	26	27	28	...	52
Code	A	B	...	Z	a	b	...	z

△ Year code : See the table

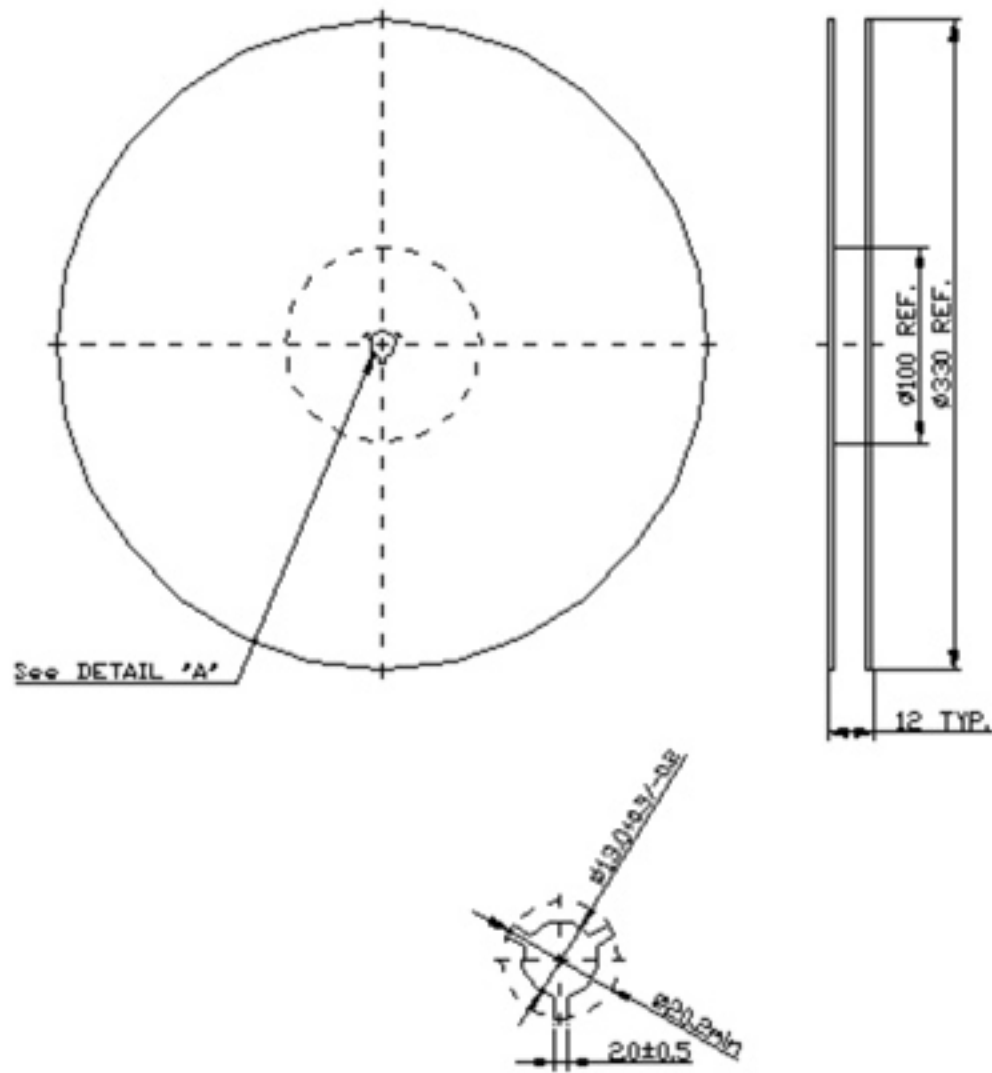
Year	2008	2009	2010	2011	...	2019	2020
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Code	8	9	0	1	...	9	0
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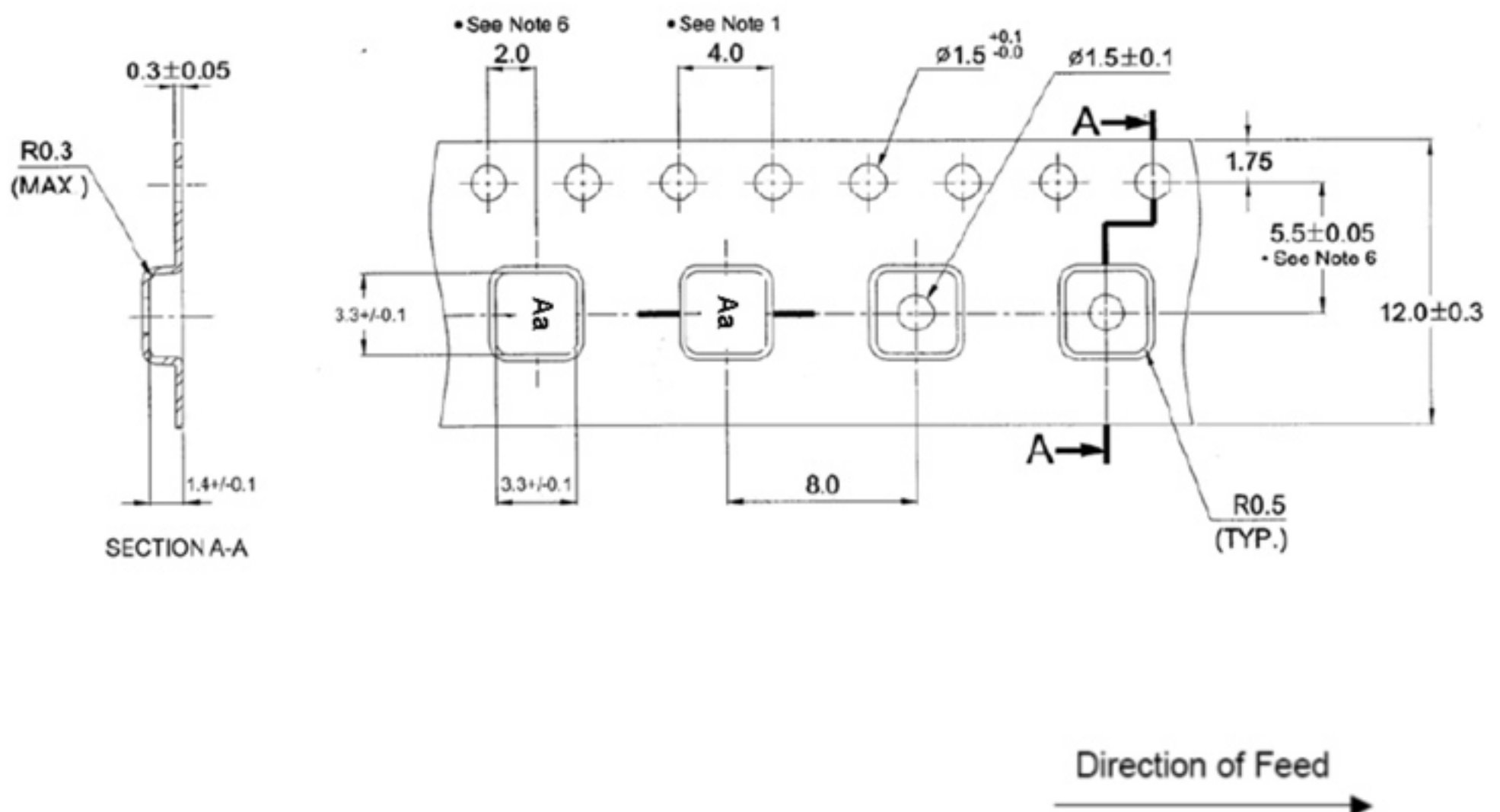
F. PACKING:

1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



2. TAPE DIMENSION



G 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 (20~40sec).
4. Time: 2 times.

