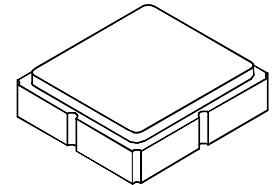


- **Low-Loss Quartz Design**
- **Simple External Impedance Matching**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**



**RF3715E**

**500 MHz  
SAW Filter**



**SM3030-8 Case  
3.0 x 3.0**

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +85	°C
Operable Temperatures Range	-40 to +125	°C
Specification Temperature Range	-20 to +70	°C
Soldering Temperature (10 seconds / 5 cycles max.)	260	°C

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency	$f_c$			500		MHz
Insertion Loss @500 MHz	IL			2.7	3.8	dB
3 dB Bandwidth	$BW_3$		0.8	1.0		MHz
Rejection Reference @ 500 MHz		10 - 498.4 MHz	22	26		dB
		498.4 - 499.0 MHz	15	26		
		501.0 - 501.8 MHz	15	20		
		501.8 - 1000 MHz	23	25		
Temperature Freq. Temp. Coefficient	FTC			0.032		ppm/°C <sup>2</sup>
Turnover Temperature	$T_o$			+15		°C
Frequency Aging Absolute Value during the First Year	fA			<±10		ppm/yr
Lid Symbolization (Y = Year, WW = Week, S = Shift)	C9, YWWS					
Standard Reel Quantity 7 Inch Reel				500 Pieces/Reel		
Standard Reel Quantity 13 Inch Reel				3000 Pieces/Reel		



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

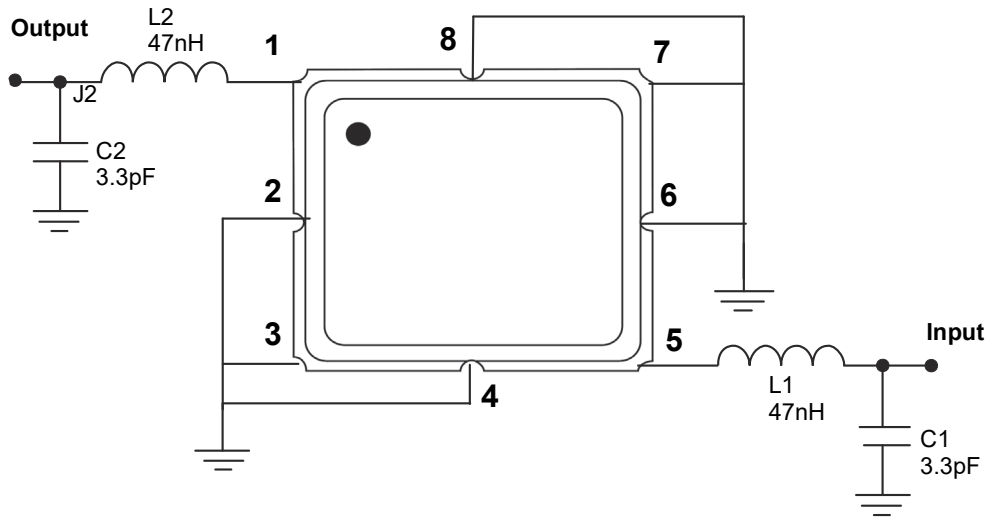
**NOTES:**

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.

### Matching Circuit to 50Ω

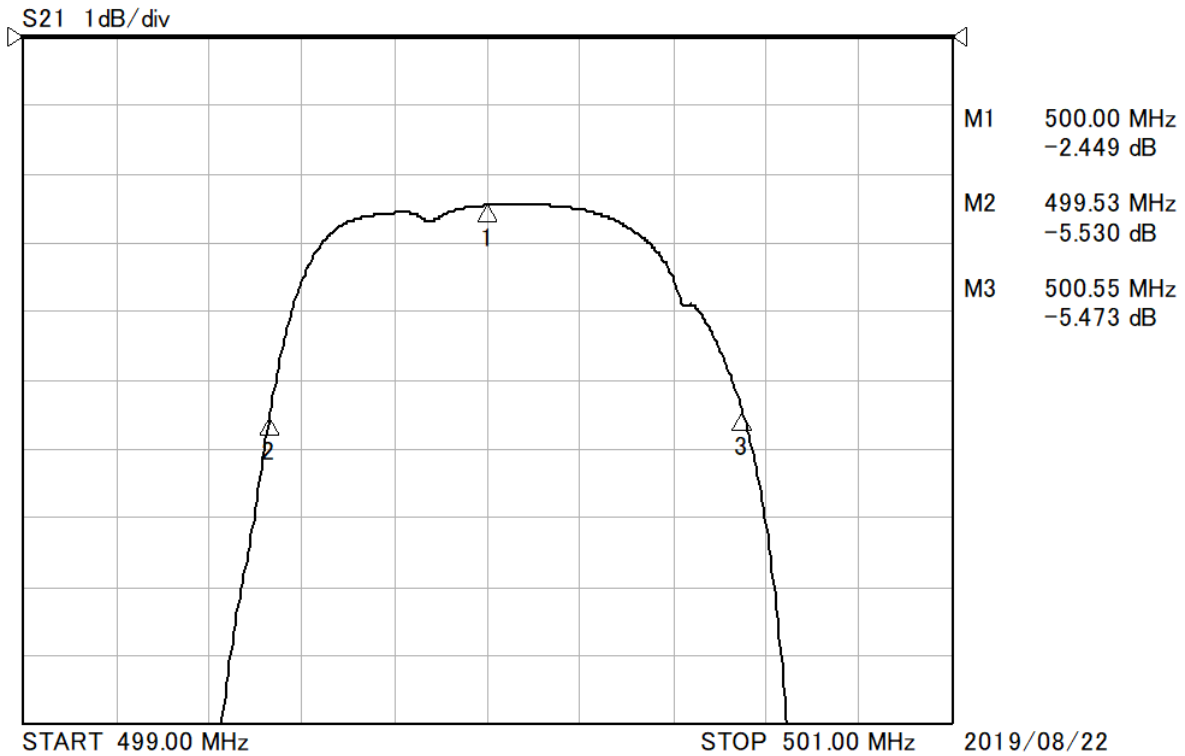
#### Optional Electrical Connections

Pin	Connection
1	Output
2	To Be Grounded
3	To Be Grounded
4	Case Ground
5	Input
6	To Be Grounded
7	To Be Grounded
8	Case Ground



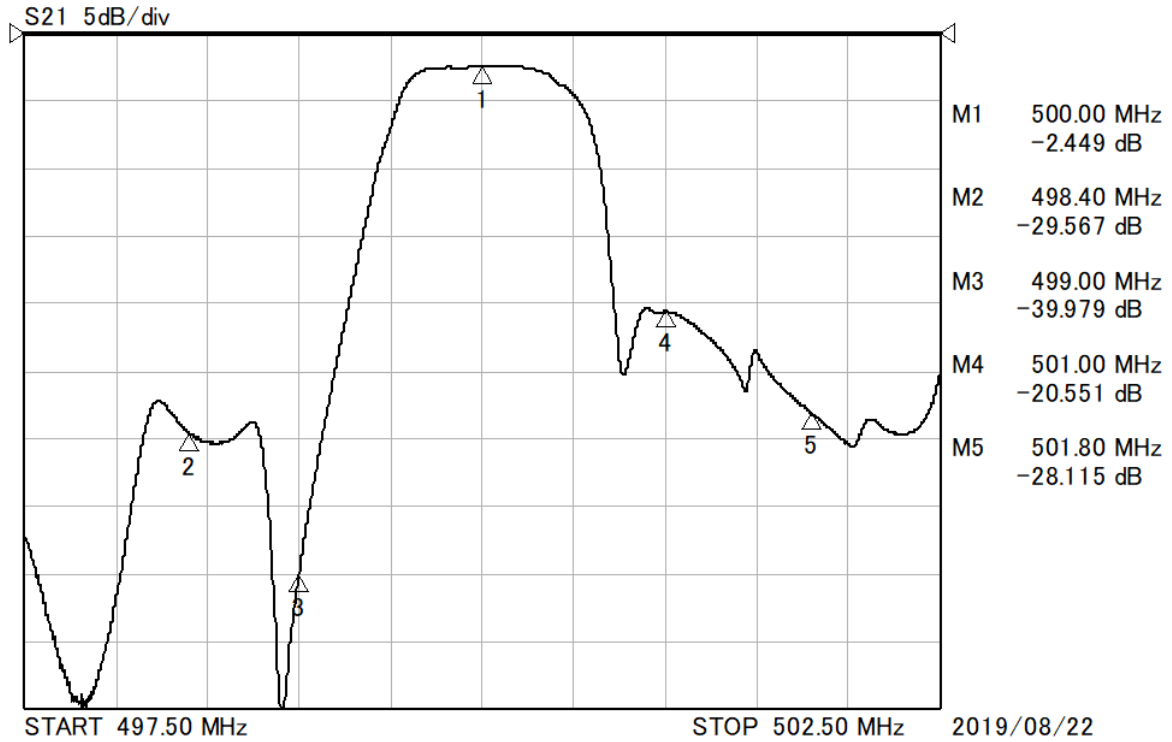
### Frequency Characteristics

#### S21 Response (Span: 2 MHz)

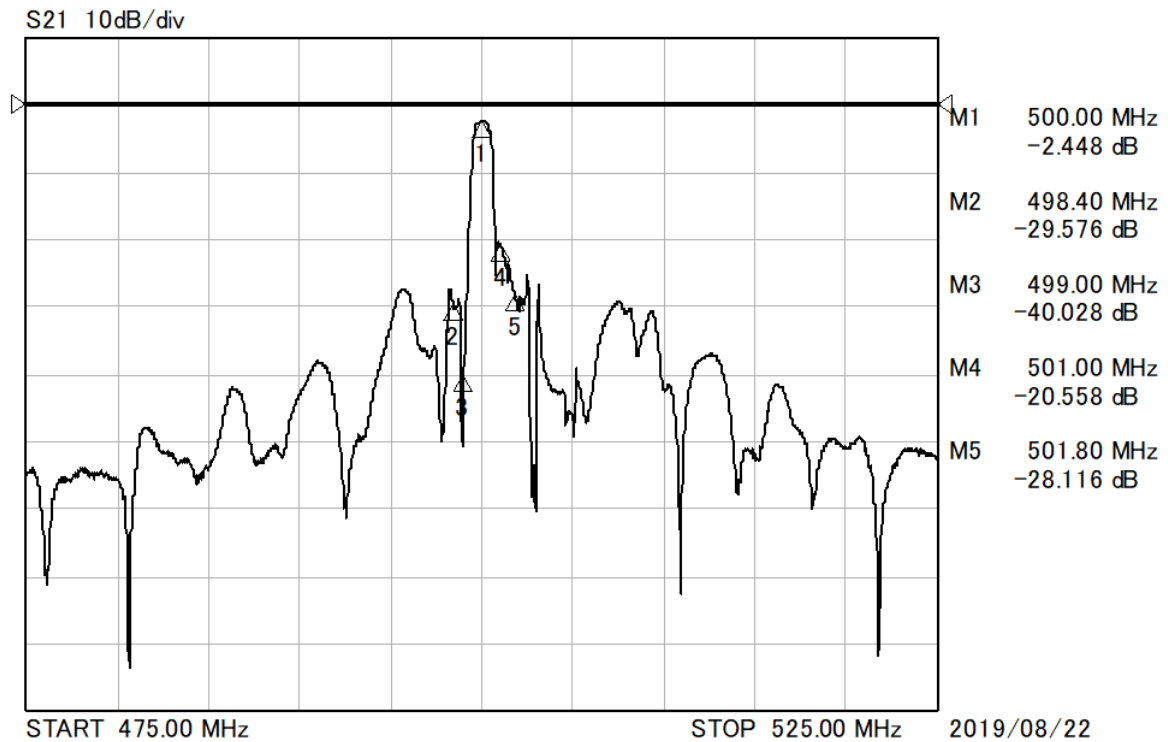


# Frequency Characteristics

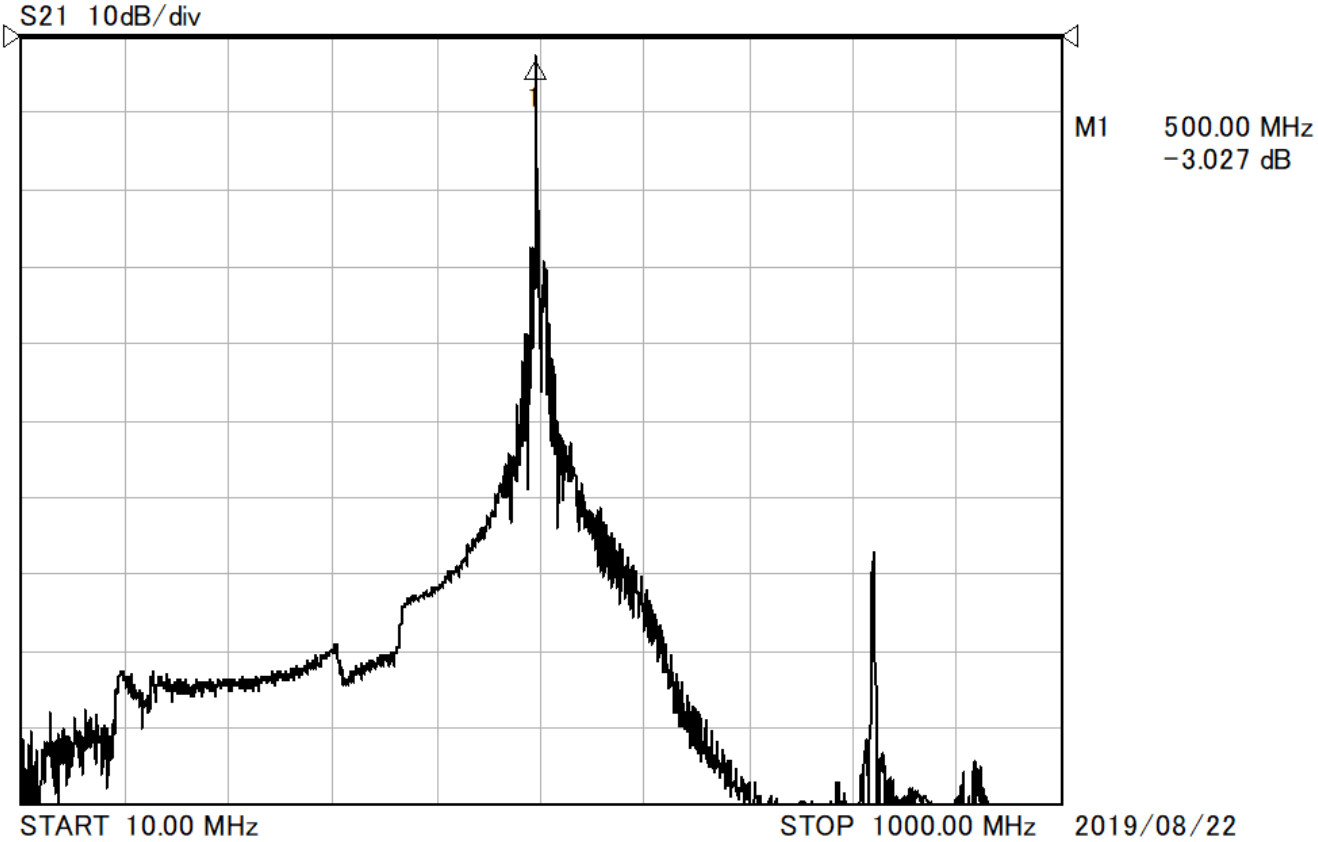
## S21 Response (Span: 5 MHz)



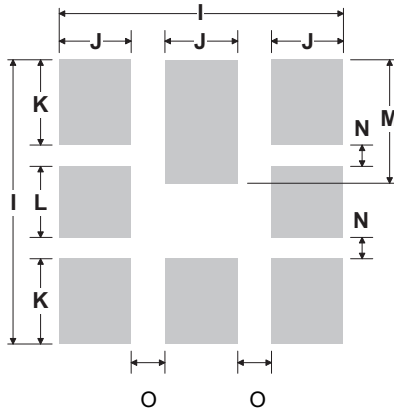
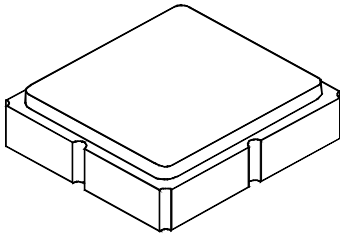
## S21 Response (Span: 50 MHz)



S21 Response (Span: 990 MHz)



# 8-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint



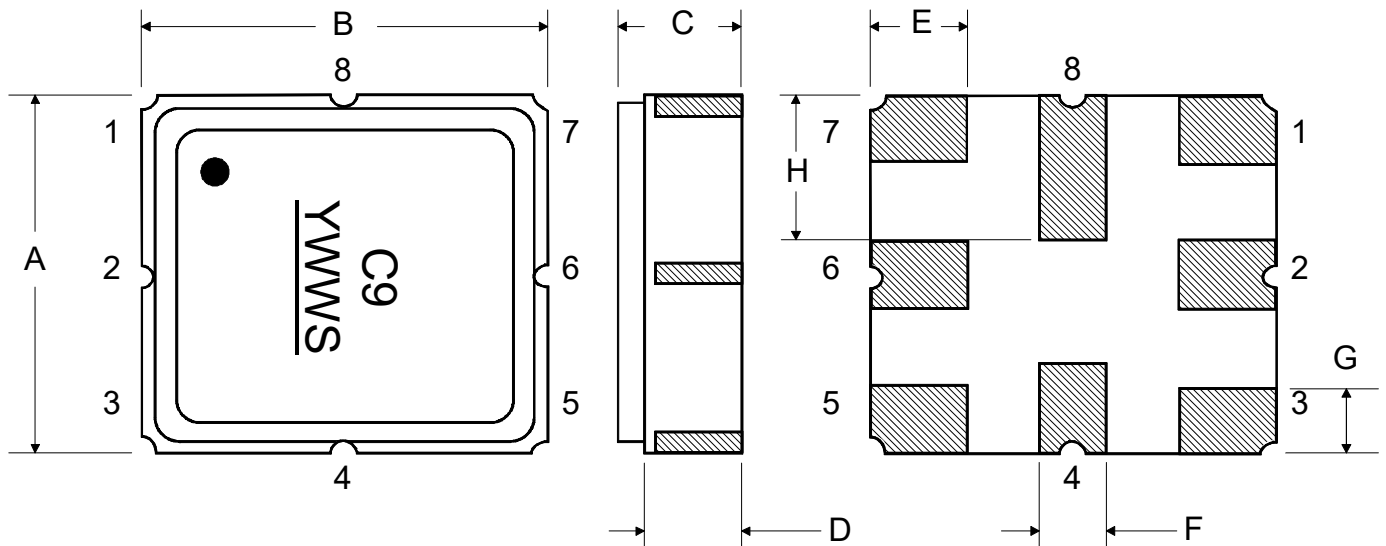
**PCB Footprint Top View**

## Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.0	3.13	0.113	0.118	0.123
B	2.87	3.0	3.13	0.113	0.118	0.123
C	0.975	1.085	1.215	0.038	0.043	0.048
D	0.79	0.92	1.05	0.031	0.036	0.041
E	0.62	0.75	0.88	0.024	0.029	0.034
F	0.47	0.60	0.73	0.018	0.024	0.029
G	0.47	0.60	0.73	0.018	0.024	0.029
H	1.07	1.20	1.33	0.042	0.047	0.052
I		3.19			0.126	
J		0.81			0.032	
K		0.96			0.038	
L		0.81			0.032	
M		1.39			0.055	
N		0.23			0.009	
O		0.38			0.015	

## Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic



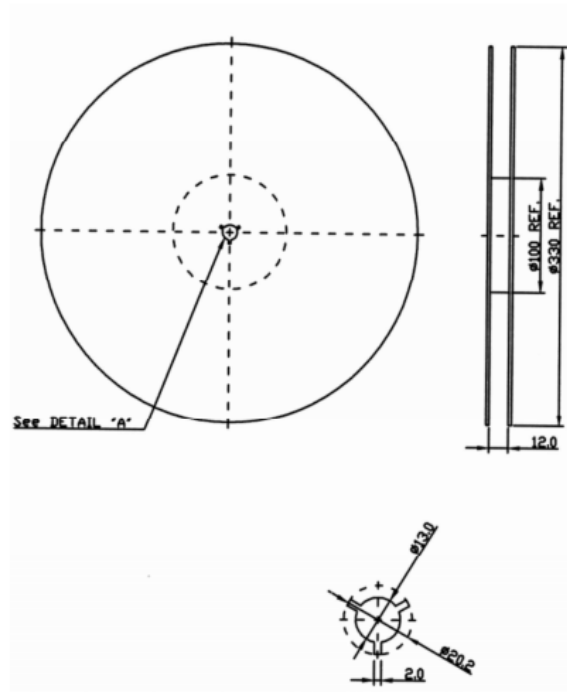
## Reel Dimension

Tape and Reel Standard per ANSI/EIA-481

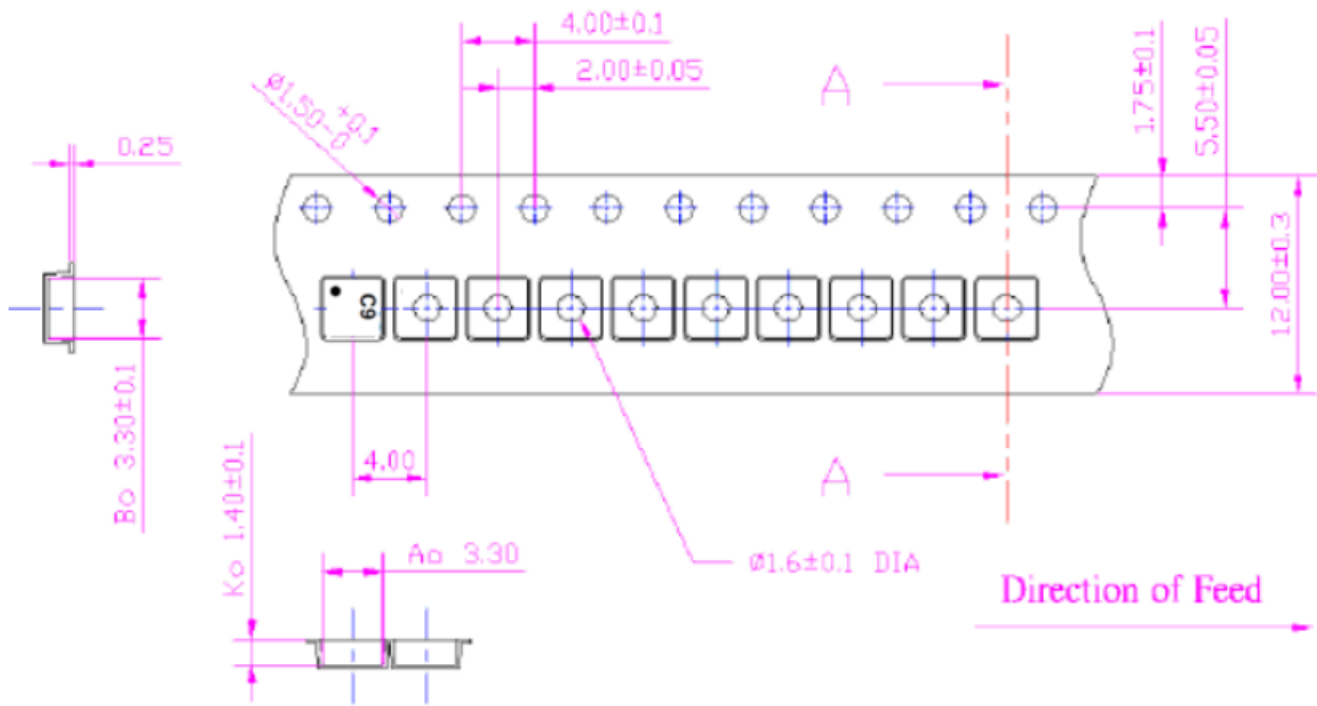
Reel Count:

7" = 500

13" = 3000



## Tape Dimension



## 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.

