Quartz Crystal - Micro Miniature "AT Strip" Crystal

Pin Type Crystal - Cylinder - 3.0 x 9.0mm & 3.0 x 10.0mm

• Features

Low cost & wide applications

Tight tolerance and Stability

RoHS compliant

• General Specification

Type	3.0 x 10.0	3.0 x 9.0
Frequency Range	3.579545MHz - 4.000MHz	4.001MHz - 70.000MHz
Frequency Tolerance at 25℃	± 30ppm	
Frequency Stability	± 50ppm	
Operating Temperature	-10 ℃ to +60 ℃ *	
Load Capacitance	12pF to 32pF	
Shunt Capacitance	7pF max *	
Storage Temperature	-40℃ to +85℃ *	
Drive Level	100μW *	
Aging	<± 5ppm first year *	

* Can be changed according to Customer's requirement.

• Drive Level Codes (μW)

A = 100	B = 200	D = 50	E = 300	G = 500	I = 10

• Load Capacitance Codes

12pF = A	12.5pF = B	14pF = C	16pF = D	17pF = E	18pF = F
20pF = G	25pF = H	30pF= I	32pF = J	33pF = K	Series = L
13pF = M	27pF = N	50pF = O	10pF = P	15pF = Q	22pF = R
15.8pF = S	8.5pF = T	8.2pF = U	40pF = V	9pF = W	11pF = X
13.8pF = Y	19.6pF = Z	6pF = a	7pF = d	8pF = e	19pF = f

• Operating Temperature Codes (℃)

A = -10 to +60	B = -20 to +70	C = -10 to +70	I = -40 to +85	X = -30 to +80	W = -10 to +50

• Frequency Tolerance & Frequency Stability Codes (ppm)

P = ±10	S = ±20	T = ±30	U = ±50	V = ±100	W = ±5

Pls contact us for the parameters you could not find in these tables.

Quartz Crystal - Cylinder - 309 & 310

• Frequency Stability vs. Operating Temperature

	± 10ppm	± 20ppm	± 30ppm	± 50ppm	± 100ppm
-10℃- +60℃	⊙	⊙	●	⊙	⊙
-10℃- +70℃		⊙	●	⊙	⊙
-20℃- +70℃		⊙	●	●	⊙
-40℃- +85℃			⊙	●	⊙

⊙ Available ● Standard

• ESR (Series Resistance Rs) vs Standard Frequency, Vibration Mode & Codes

Frequency Range (MHz)	ESR Max (Ω)	Code	Vibration Mode	Code
3.579545 - 4.000	200	b	AT Fund	A
4.001 - 5.000	150	0	AT Fund	A
5.001 - 6.000	120	b	AT Fund	A
6.001 - 8.000	100	0	AT Fund	A
8.001 - 10.000	80	2	AT Fund	A
10.001 - 27.000	50	2	AT Fund	A
27.001 - 36.000	100	b	3rd OT	a3
36.001 - 70.000	80	0	3rd OT	a3

• Marking

Frequency

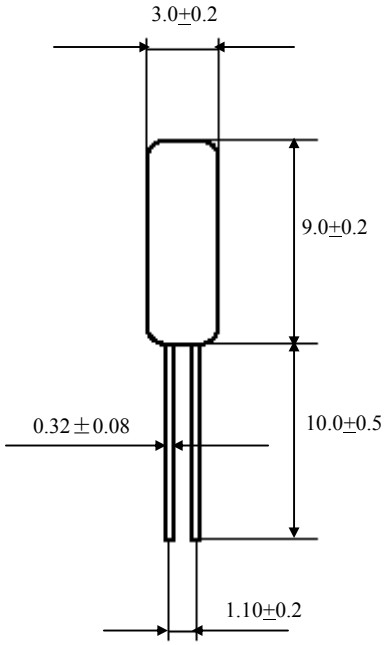
• Ordering Information

Drive Level	Load Capacitance	Operating Temperature	Frequency Tolerance	Frequency Stability	ESR	Type	Vibration Mode	Frequency	Lead-free	Packing
(μW)	(pF)	(℃)	(ppm)	(ppm)	(Ω)			(MHz)		
See Tables						K = 309 V = 310	See Table	xx.xxxM	LF=leadfree Blank=with lead	Blank=bulk
100	20	-10 to +60	±30	±50	50		AT Fund			
A	**G**	**A**	**T**	**U**	**2**		**A**		**LF**	

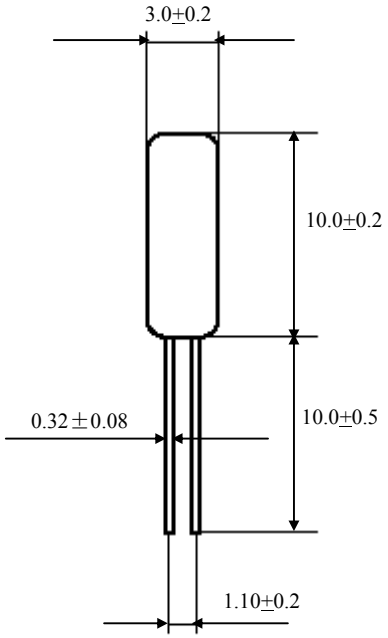
For Example: **AGATU2KA-10.000MLF**

Quartz Crystal - Cylinder - 309 & 310

• Dimensions



309



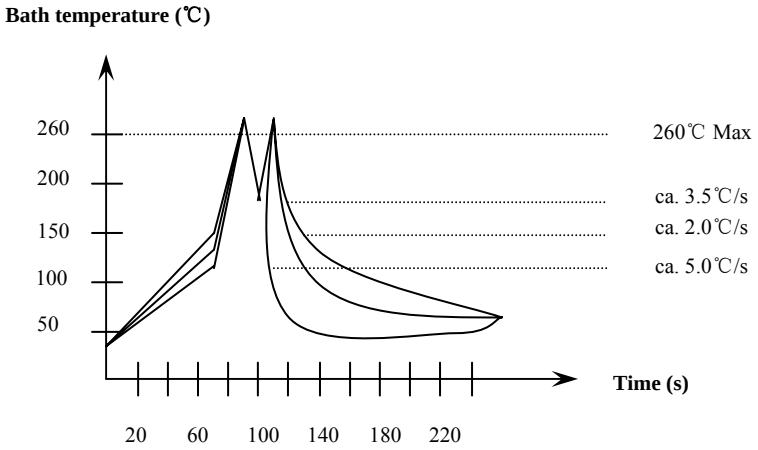
310

in mm

• Packing

Bulk

• Wave Soldering Profile



• Mounting

Do not solder the metal can if the crystal shall be mounted vertically to the board. The crystal may be overheated by the direct heat flow. Pls use glue (hot-melt adhesive) or mechanical clamping to fasten the metal can.