

CRYSTAL UNIT



HUAFENG
CRYSTAL

ATS Series

- ATS Holder type package
- AT or BT cut available
- Resistance weld seal
- Tape and reel, insulator tab, 3rd lead, and custom lead length options available
- Tight tolerance / stability



ELECTRICAL SPECIFICATIONS

Frequency Range	3.579 to 85.000MHz
Operating Temperature Range	-10 to +60°C(STD), -20 to +70°C
Storage Temperature Range	-40 to +85°C
Frequency Tolerance(at 25°C)	± 15, ± 30, ± 50ppm(STD)
Frequency Stability	
Over Operating Temperature Range	± 30, ± 50(STD), ± 100ppm
Load Capacitance(C _L)	18pF(STD), Custom C _L ≥10pF or Series Resonant
Drive Level	0.01 to 1,000μW
Shunt Capacitance(C ₀)	7pF Max
Aging (at 25°C)	± 5ppm/year Max
Insulation Resistance	500MΩ Min at 100V _{DC}

EQUIVALENT SERIES RESISTANCE(ESR)

Frequency Range(MHz)	ESR(Ω Max)	Mode of Oscillation
3.579 ~ 3.999	150	Fundamental/AT
4.000 ~ 4.999	120	Fundamental/AT
5.000 ~ 5.999	100	Fundamental/AT
6.000 ~ 7.999	90	Fundamental/AT
8.000 ~ 9.999	70	Fundamental/AT
10.000 ~ 11.999	60	Fundamental/AT
12.000 ~ 14.999	50	Fundamental/AT
15.000 ~ 19.999	40	Fundamental/AT
20.000 ~ 27.000	30	Fundamental/AT
27.000 ~ 32.999	50	Fundamental/BT
33.000 ~ 40.000	40	Fundamental/BT
24.576 ~ 47.999	80	3rd Overtone
48.000 ~ 85.000	60	3rd Overtone

PART NUMBERING GUIDE

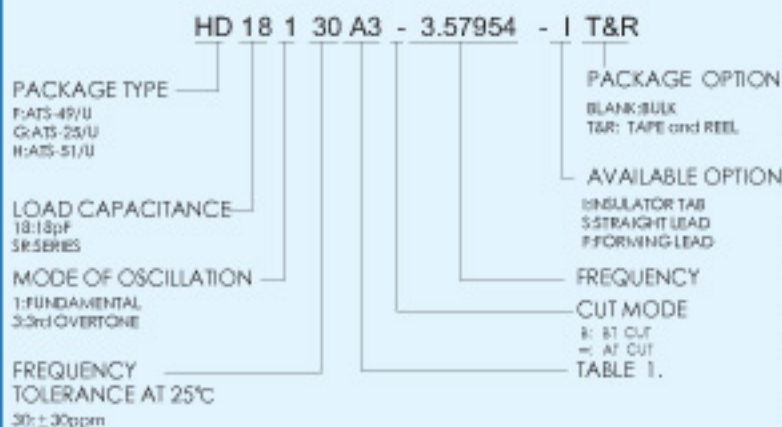
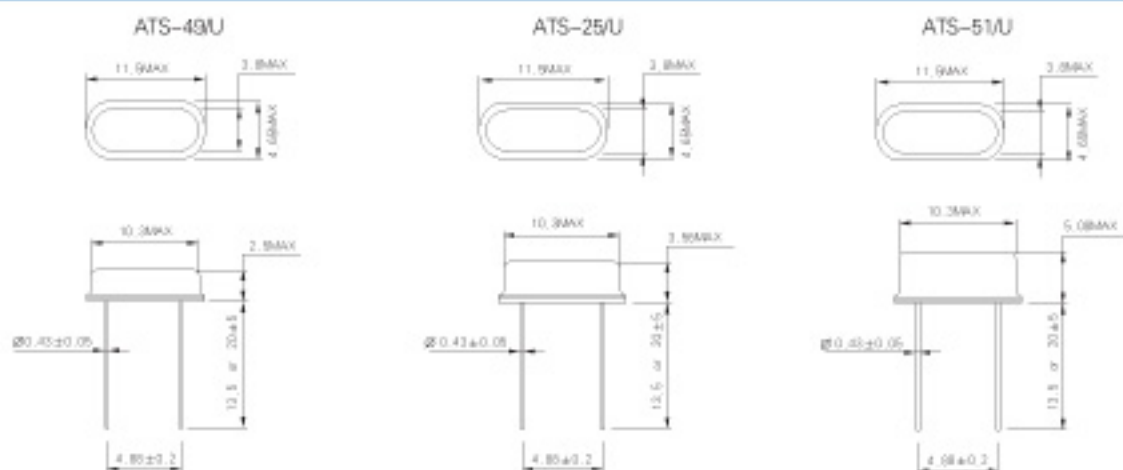


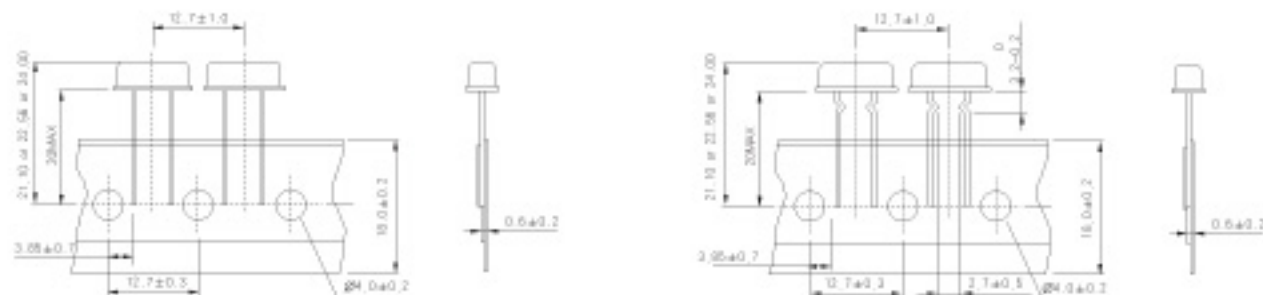
TABLE 1. FREQUENCY STABILITY VS. TEMPERATURE RANGE

Temp	Stability							
	±5	±7.5	±10	±15	±20	±30	±50	±100
-10~60°C	A	*	*	*	*	*	*	*
-20~60°C	B	*	*	*	*	*	*	*
0~70°C	C	*	*	*	*	*	*	*
-10~70°C	D	*	*	*	*	*	*	*
-20~70°C	E	*	*	*	*	*	*	*
-30~60°C	F	*	*	*	*	*	*	*
-20~85°C	G	*	*	*	*	*	*	*
-30~70°C	H	*	*	*	*	*	*	*
-30~85°C	I	*	*	*	*	*	*	*
-40~85°C	J	*	*	*	*	*	*	*
-40~90°C	K	*	*	*	*	*	*	*
-40~105°C	L	*	*	*	*	*	*	*

MECHANICAL DIMENSIONS



TAPE AND REEL DIMENSIONS



ENVIRONMENTAL / MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATIONS
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ± 5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ± 5°C for 5 seconds/95% coverage.
Shock	Random drop on hard wooden plate 3 times from a height of 75cm.
Vibration	Frequency with an amplitude of 1.52mm sweeping between 10Hz to 55Hz within 1 minute (approximately) for 2 hours minimum on each axis (X, Y and Z) for a total of 6 hours.