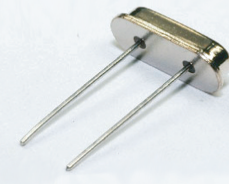


CRYSTAL UNIT

ATS TYPE ATS-25/U

- 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
- Pb-free and RoHS compliance



ELECTRICAL SPECIFICATIONS

Frequency Range	3.2768 to 85.000MHz
Operating Temperature Range	-10 to +60 °C (STD), -20 to +70 °C, or specify
Storage Temperature Range	-40 to +85 °C
Frequency Tolerance (at 25 °C)	±15, ±30, ±50ppm (STD), or specify
Frequency stability Over Operating Temperature Range	See Table1 in page 4 ±30, ±50 (STD), ±100ppm
Load Capacitance (CL)	18pF (STD), Custom CL=10pF or Series Resonant
Drive Level	100µl (1000µW max.)
Shunt Capacitance (Co)	7.0pF max.
Aging (at 25 °C)	±5.0ppm/year max.
Insulation Resistance	500MΩ min. at 100Vdc

EQUIVALENT SERIES RESISTANCE (ESR)

Frequency Range (MHz)	ESR (Ω MAX.)	Mode of Oscillation
3.2768 ~ 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

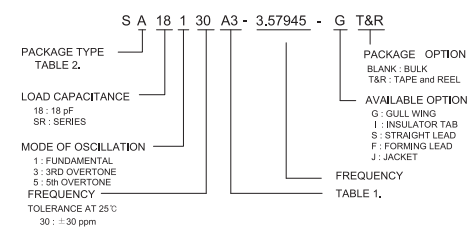


TABLE 1.

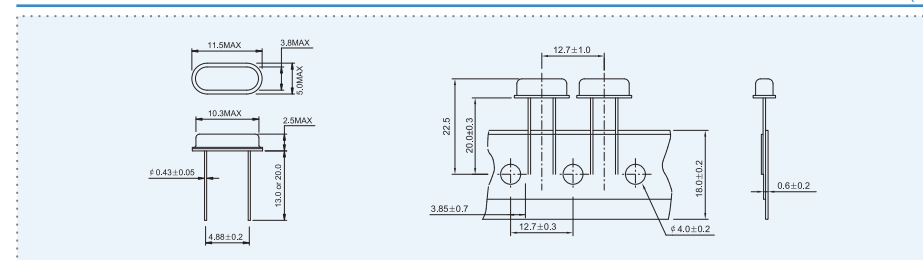
Temp	FREQUENCY STABILITY VS. TEMPERATURE RANGE							
	±5	±7.5	±10	±15	±20	±30	±50	±100
-10 ~ 60 °C	A	*	*	*	*	*	*	*
-20 ~ 60 °C	B	*	*	*	*	*	*	*
0 ~ 70 °C	C	*	*	*	*	*	*	*
-10 ~ 70 °C	D	*	*	*	*	*	*	*
-20 ~ 70 °C	E	*	*	*	*	*	*	*
-30 ~ 60 °C	F	*	*	*	*	*	*	*
-20 ~ 85 °C	G	*	*	*	*	*	*	*
-30 ~ 70 °C	H	*	*	*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

TABLE 2.

A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
HC-49U	HC-49T	ATS-25U	ATS-49U	ATS-61U	UM-1	UM-4	UM-6	SX-1	SX-3	SX-6	SX-7	SX-8	SX-8	SX-02	SX-02

MECHANICAL DIMENSIONS

(mm)



SUNNY ELECTRONICS CORP