

# ATS SMD TYPE SX-1

- ATS SMD Type Package
- AT-Cut or BT-Cut Available
- Resistance Weld Seal
- Taping and Reel Available
- Tight Tolerance / Stability
- Pb-free and RoHS Compliance



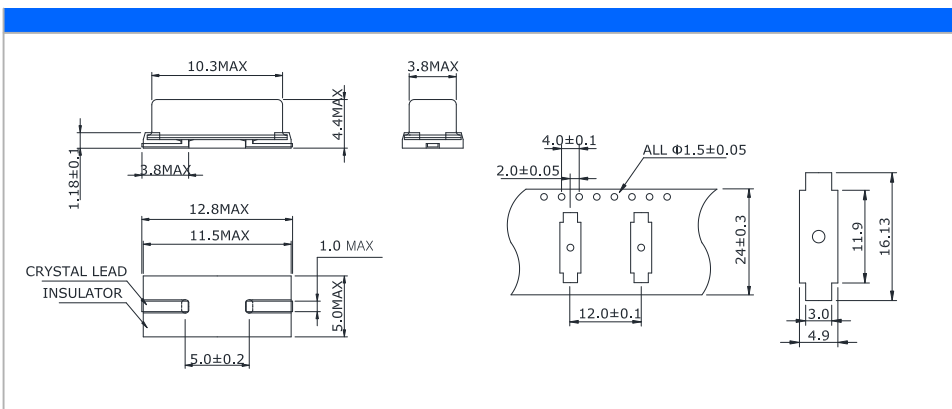
## ■ ELECTRICAL SPECIFICATIONS

Frequency Range	3.2768 to 60.000 MHz
Operating Temperature Range	-20 to +70 °C, -40 to +85 °C, or specify
Storage Temperature Range	-40 to +85 °C
Frequency Tolerance (at 25 °C)	±15, ±30, ±50 ppm(STD), or specify
Frequency Stability	±10 to ±50 ppm(-20 to +70 °C)
Over Operating Temperature Range	±20 to ±100 ppm(-40 to +85 °C)
Load Capacitance (CL)	18 pF(STD), Custom CL≥10 pF or Series Resonant
Drive Level	100 μW(1000 μW Max.)
Shunt Capacitance (C0)	7.0 pF Max.
Aging (at 25 °C)	±3 ppm/year Max.
Insulation Resistance	500 MΩ Min. at 100 V <sub>DC</sub>

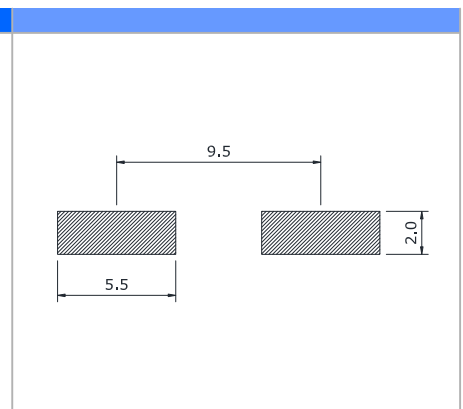
## ■ EQUIVALENT SERIES RESISTANCE(ESR)

Frequency Range(MHz)	ESR(Ω Max.)	Mode of Oscillation
3.2768 ~ 3.999	150	Fundamental / AT-Cut
4.000 ~ 4.999	120	Fundamental / AT-Cut
5.000 ~ 5.999	100	Fundamental / AT-Cut
6.000 ~ 7.999	90	Fundamental / AT-Cut
8.000 ~ 9.999	70	Fundamental / AT-Cut
10.000 ~ 11.999	60	Fundamental / AT-Cut
12.000 ~ 14.999	50	Fundamental / AT-Cut
15.000 ~ 19.999	40	Fundamental / AT-Cut
20.000 ~ 27.000	30	Fundamental / AT-Cut
27.000 ~ 32.999	50	Fundamental / BT-Cut
33.000 ~ 45.158	40	Fundamental / BT-Cut
24.576 ~ 47.999	80	3rd Overtone
48.000 ~ 60.000	60	3rd Overtone

## ■ MECHANICAL DIMENSIONS (mm)

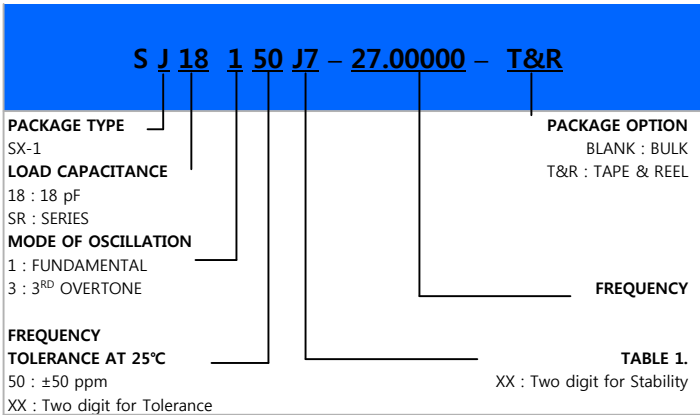


## ■ LAND PATTERN (mm)



**■ PART NUMBERING GUIDE**

**■ TABLE 1.**



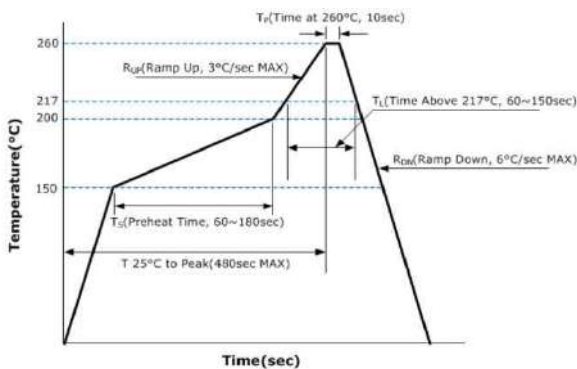
		FREQUENCY STABILITY VS. TEMPERATURE RANGE					
Temp	Stability	±10	±15	±20	±30	±50	±100
		3	4	5	6	7	8
-10~70°C	D	*	*	*	*	*	*
-20~70°C	E	*	*	*	*	*	*
-30~60°C	F	*	*	*	*	*	*
-20~85°C	G		*	*	*	*	*
-30~70°C	H			*	*	*	*
-30~85°C	I				*	*	*
-40~85°C	J				*	*	*
-40~90°C	K				*	*	*
-40~105°C	L				*	*	*
-40~125°C	M						

**■ ENVIRONMENTAL & MECHANICAL SPECIFICATIONS**

Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Solderability	MIL-STD-883, Method 2003

**■ REFLOW PROFILE**

**■ MARKING GUIDE**



A: AT-CUT FUND.  
B: BT-CUT FUND.  
C: AT-CUT 3RD OVERTONE

**LINE 1 : SC XX.XXX**  
**LINE 2 : A YY WW**

Year \_\_\_\_\_  
Week \_\_\_\_\_  
Frequency in MHz

**■ TAPE AND REEL DIMENSIONS**

1,000pcs/reel

