CERAMIC SMD TYPE

STI

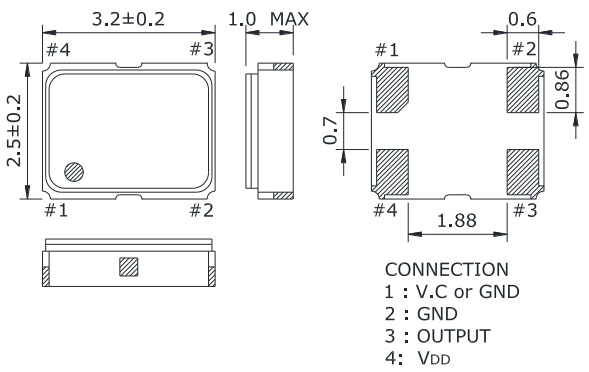
- Temperature Compensated Crystal Oscillator
- External Dimensions : 3.2×2.5 mm
- Fundamental AT-cut Crystal used
- Clipped Sinewave Output / CMOS Output
- Application for Cellular phone(WIMAX, CDMA, WCDMA)
- Application for GPS Available on Tape and Reel



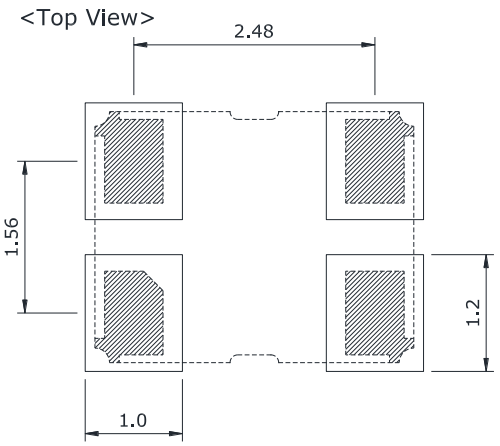
■ ELECTRICAL SPECIFICATIONS

ITEM	VALUE		
Output Logic Type	Clipped Sinewave		CMOS
Frequency Range	12.000 MHz to 54.000 MHz		10.000 MHz to 38.400 MHz
Supply Voltage(V_{DD})	2.5 V_{DC} to 3.4 V_{DC}	1.8 V_{DC} to 3.0 V_{DC}	2.5 V_{DC} to 3.4 V_{DC}
Operating Temperature Range	-30 to +85 ℃		-30 to +85 ℃
Storage Temperature Range	-40 to +85 ℃		-40 to +85 ℃
Frequency Stability Vs. Temperature Vs. Supply voltage Vs. Load Vs. Aging	 ±2.0 ppm Max. ±0.2 ppm Max. ±0.2 ppm Max. ±1.0 ppm Max. / year	 ±0.5 ppm Max. ±0.2 ppm Max. ±0.2 ppm Max. ±1.0 ppm Max. / year	 ±2.5 ppm Max. ±0.2 ppm Max. ±0.2 ppm Max. ±1.0 ppm Max. / year
Frequency Tolerance	±1.0 ppm Max.		±1.0 ppm Max.
Input Current	2 mA Max.		6 mA Max.
Frequency Deviation	±5.0 ppm, ±10 ppm Min.		±5.0 ppm, 10 ppm Min.
Control Voltage(Vc)	1.4 V ± 1.0 V 1.5 V ± 1.0 V	0.9 V ± 0.6 V 1.4 V ± 1.0 V	1.4 V ± 1.0 V 1.5 V ± 1.0 V
Output Level	0.8 V_{P-P} Min.		90 % of V_{DD} Min. 10 % of V_{DD} Max.
Output Load Condition	10 kΩ//10 pF		15 pF
Phase Noise at 1kHz offset	-130 dBc/Hz	-130 dBc/Hz	-130 dBc/Hz

■ MECHANICAL DIMENSIONS (mm)



■ LAND PATTERN (mm)



■ PART NUMBERING GUIDE

STI 33 20 H S 5 – 10.000M

SUPPLY VOLTAGE(V_{DD})
33 : 3.3 V, 25 : 2.5 V
18 : 1.8 V

FREQUENCY STABILITY
TABLE 1

OPERATING TEMPERATURE RANGE
TABLE 1

OUTPUT
M : HCMOS
S : CLIPPED SINEWAVE

FREQUENCY
M : MHz

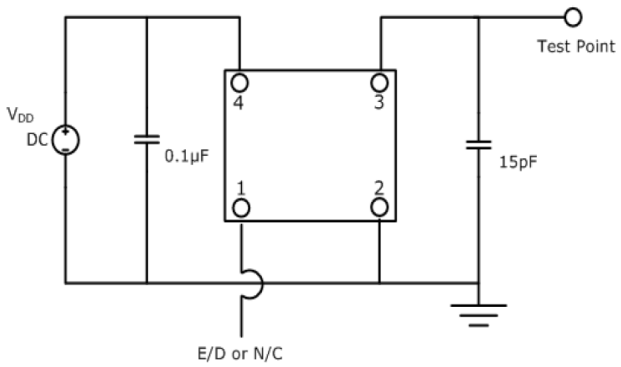
FREQUENCY DEVIATION
BLANK : TCXO
5 : ± 5 ppm min.
10 : ± 10 ppm min.

■ TABLE 1

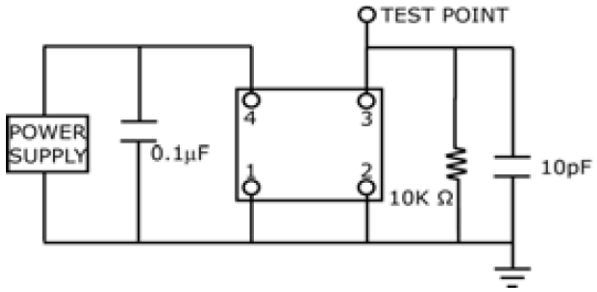
FREQUENCY STABILITY VS. TEMPERATURE RANGE

Temp \ Stability		±0.5	±1.0	±1.5	±2.0	±3.0	±5.0
		05	10	15	20	30	50
0~50℃	A	*	*	*	*	*	*
-10~60℃	B	*	*	*	*	*	*
-10~70℃	C	*	*	*	*	*	*
-20~70℃	D	*	*	*	*	*	*
-30~60℃	E	*	*	*	*	*	*
-30~70℃	F	*	*	*	*	*	*
-30~75℃	G	*	*	*	*	*	*
-40~80℃	H		*	*	*	*	*
-40~85℃	I		*	*	*	*	*

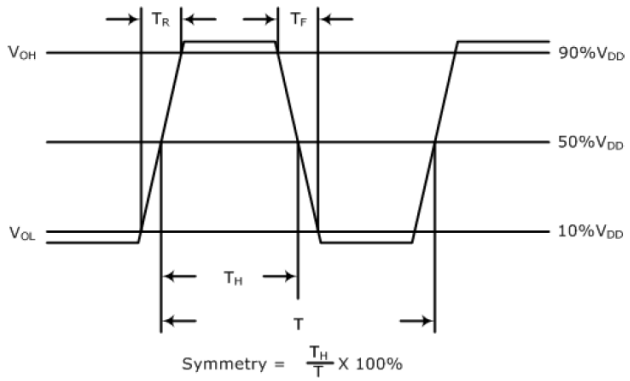
■ TEST CIRCUIT (CMOS)



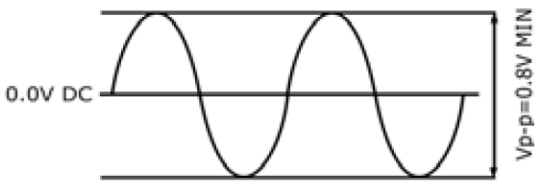
■ TEST CIRCUIT (Clipped Sinewave)



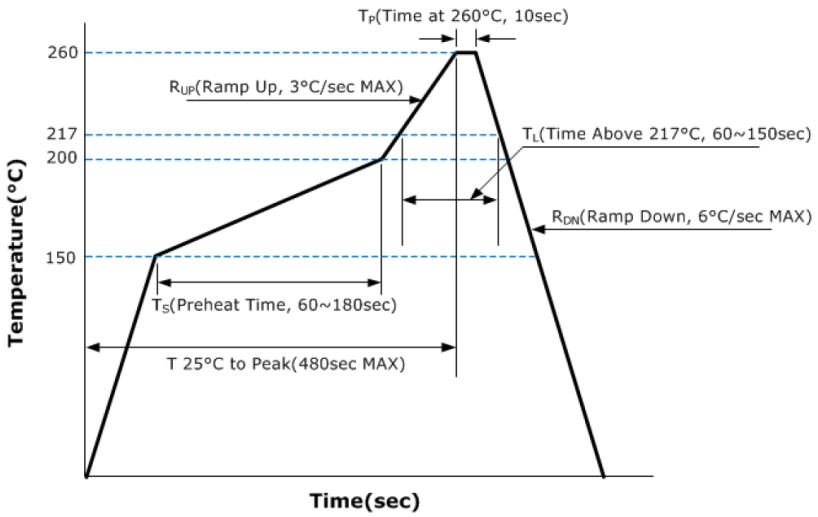
■ WAVEFORM (CMOS)



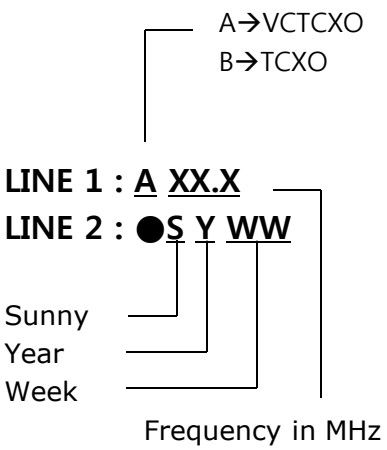
■ WAVEFORM(Clipped Sinewave)



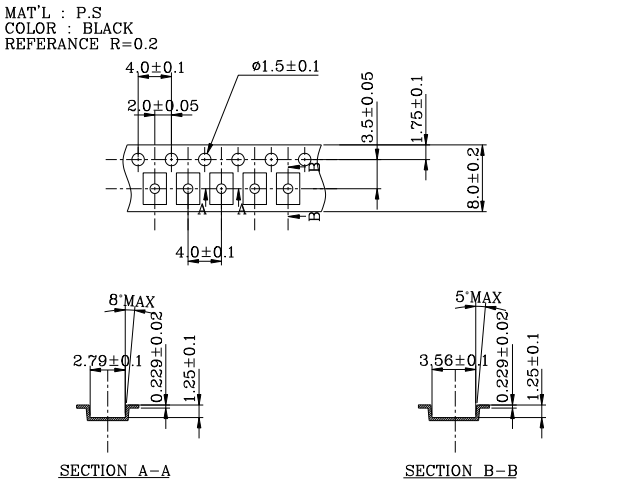
■ REFLOW PROFILE

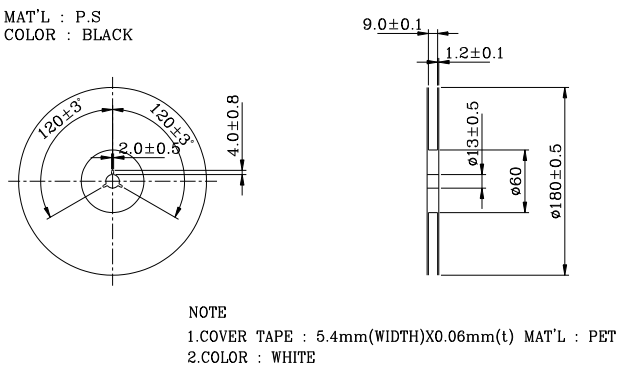


■ MARKING GUIDE



■ TAPE AND REEL DIMENSIONS





NOTE
1.COVER TAPE : 5.4mm(WIDTH)X0.06mm(t) MAT'L : PET
2.COLOR : WHITE

■ 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-883, Method 2002, Condition B
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