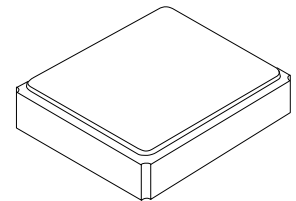


XTL2039G

**25.000000 MHz
Crystal Unit**



SM2520-4

Features:

- Surface Mount Hermetic Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package
- Moisture Sensitivity Level:1

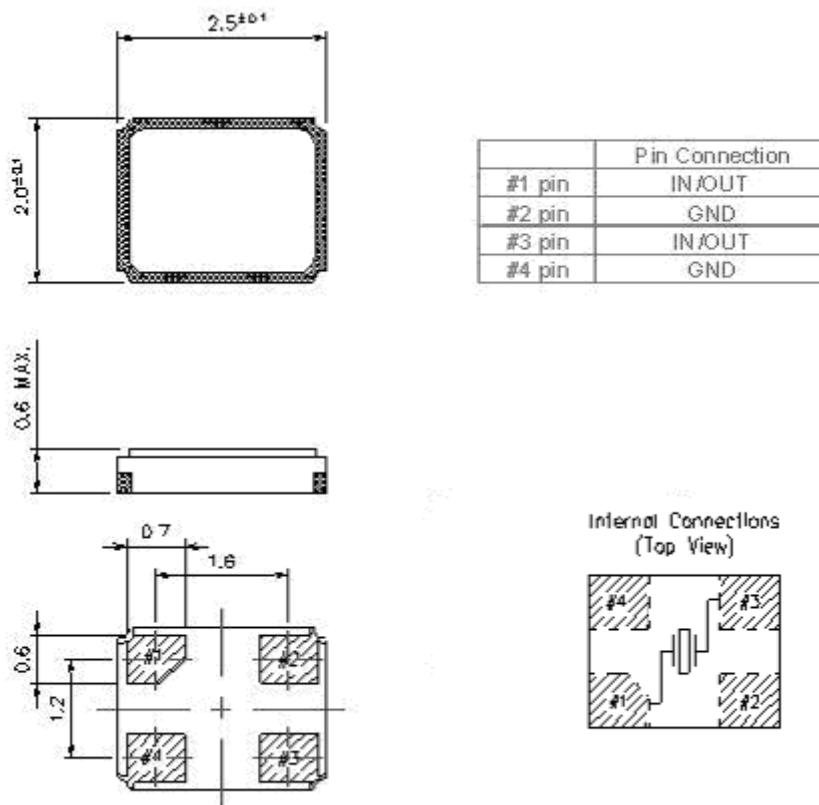
Description and Applications:

Surface mount 2.5mmx2.0mm crystal unit for use in wireless communications devices, especially for a need of ultra miniature package for mobility.

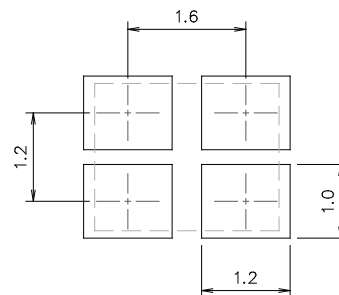
Electrical Specifications:

| XTL2039G | Specification |
|--|---|
| Nominal Frequency | 25.000000 MHz |
| Mode of Oscillation | Fundamental |
| Storage Temperature Range | -40°C to +105°C |
| Operating Temperature Range | -20°C to +70°C |
| Frequency Stability over Operating Temperature Range | +/-10 ppm (referred to the value at 25°C) |
| Frequency Make Tolerance (FL) | +/-10 ppm @ 25°C +/- 3°C |
| Equivalent Series Resistance (ESR) | 100 Ω max |
| Nominal Drive Level | 10uW typical and 100uW max |
| Shunt Capacitance (Co) | 3.0 pF max |
| Load Capacitance (CL) | 10 pF |
| Aging | +/-2ppm/year |
| Insulation Resistance | 500 MΩ min./DC 100V |
| Marking | Laser Marking |
| Unit Weight | 9.5 +/-0.5mg |

Mechanical Dimensions (mm):



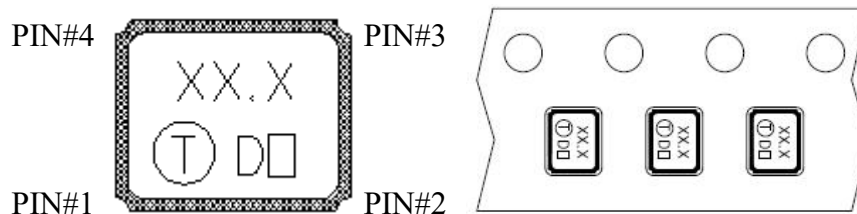
Recommended Land Pattern: (unit: mm)



Marking:

Line 1: Frequency (25.0)

Line 2: Date Code + Product Code (□ MFGR internal tracking code, could be a~z and A~Z)



The inner vision of PIN#1, PIN#4 side is XTAL blank mounting pad.

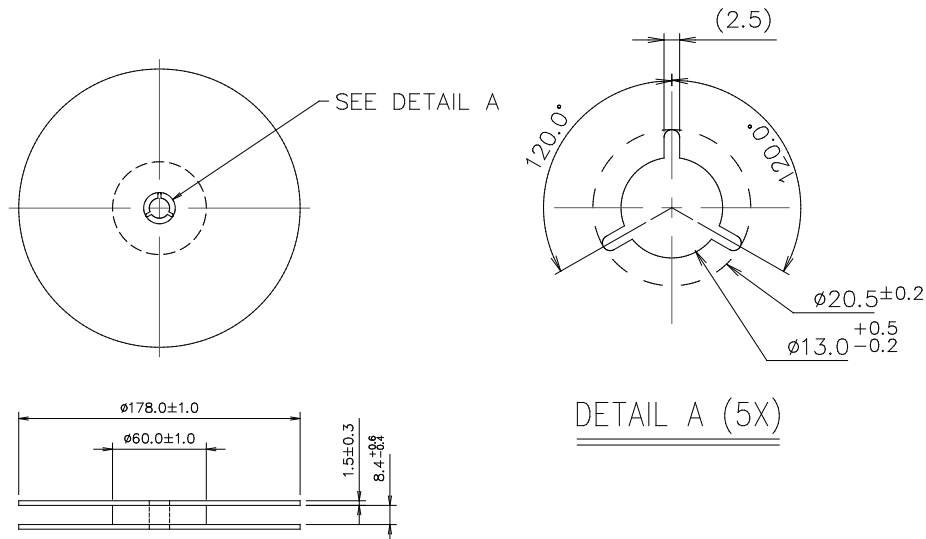
Date Code Table

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| WK01 | WK02 | WK03 | WK04 | WK05 | WK06 | WK07 | WK08 | WK09 | WK10 | WK11 | WK12 | WK13 |
| A | B | C | D | E | F | G | H | I | J | K | L | M |
| WK14 | WK15 | WK16 | WK17 | WK18 | WK19 | WK20 | WK21 | WK22 | WK23 | WK24 | WK25 | WK26 |
| N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| WK27 | WK28 | WK29 | WK30 | WK31 | WK32 | WK33 | WK34 | WK35 | WK36 | WK37 | WK38 | WK39 |
| a | b | c | d | e | f | g | h | i | j | k | l | m |
| WK40 | WK41 | WK42 | WK43 | WK44 | WK45 | WK46 | WK47 | WK48 | WK49 | WK50 | WK51 | WK52 |
| n | o | p | q | r | s | t | u | v | w | x | y | z |

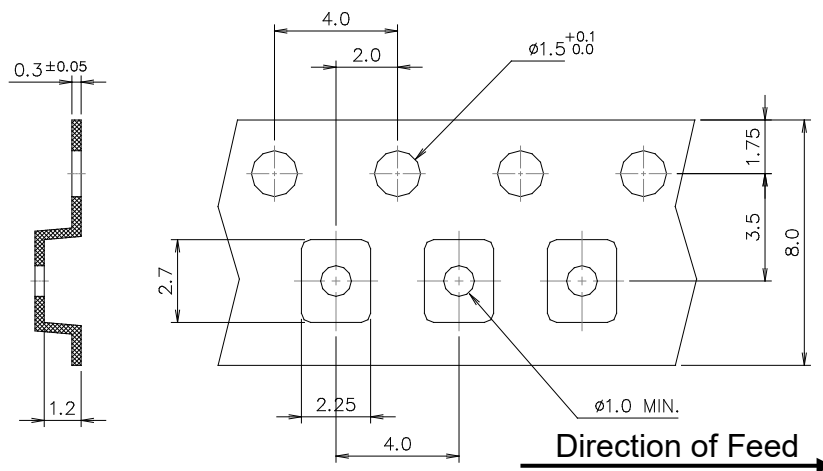
Product Code Table: (Under line With Even Year and Odd Year for Nothing)

| Year | | | | | | Product Code |
|------|------|------|------|------|------|--------------------------|
| 2013 | 2015 | 2017 | 2019 | 2021 | 2023 | <input type="checkbox"/> |
| 2014 | 2016 | 2018 | 2020 | 2022 | 2024 | <input type="checkbox"/> |

Reel Dimensions (mm):



Tape Dimensions (mm):

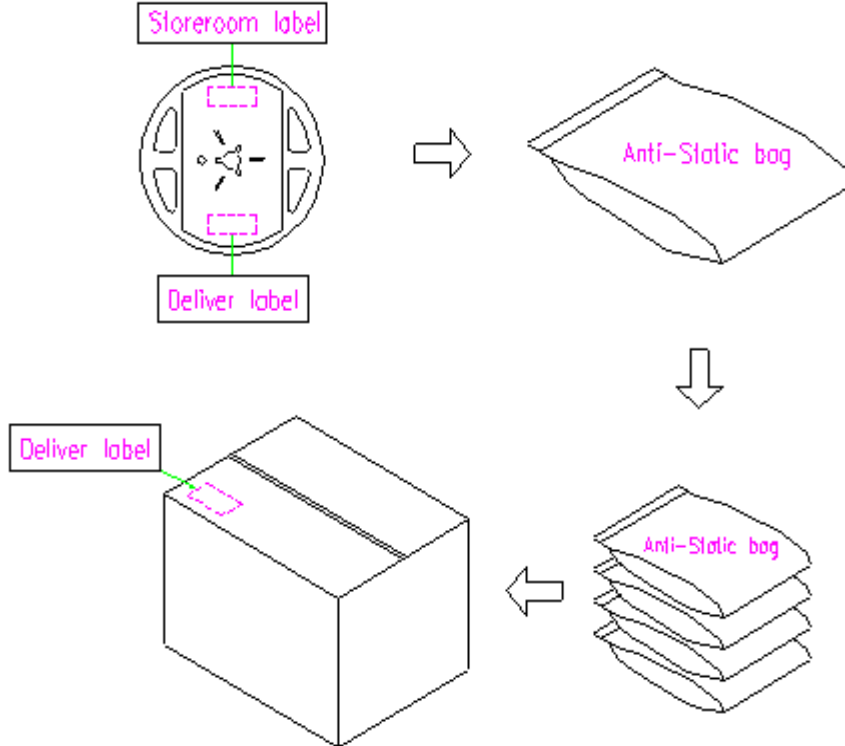


[NOTE]:

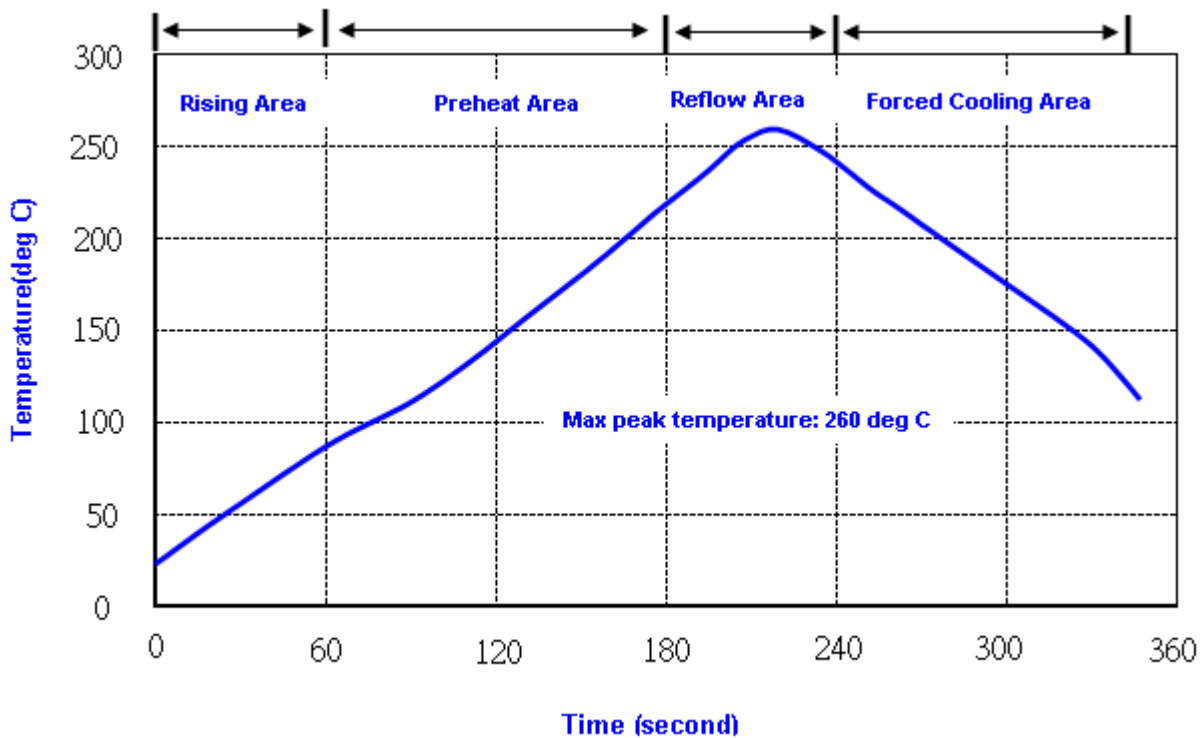
1. Unless otherwise specified tolerance on dimension ± 0.1 mm.
2. Material: conductive polystyrene with color black.
3. 10 pitch cumulative tolerance ± 0.2 mm.

Packing Quantity/Packing:

3K pcs maximum per reel



Reflow Profile:



- Note: 1. Max peak temperature: 260+/-5 deg C; Time: 10+/-2 sec
- 2. Temperature: 217+/-5 deg C; Time: 90~100 sec

Reliability Specifications

| Test name | Test process / method | Reference standard |
|--|--|-----------------------------------|
| Mechanical characteristics | | |
| resistance to Soldering heat (IR reflow) | Temp./ Duration : 265°C /10sec ×2 times Total time : 4min.(IR-reflow) | EIAJED-4701 -300(301)M(II) |
| Vibration | Total peak amplitude : 1.5mm Vibration frequency : 10 to 2000 Hz Sweep period : 20 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc. | MIL-STD 202G method 204 |
| Mechanical Shock | directions : 3 impacts per axis Acceleration : 3000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine | MIL-STD 202G method 213 |
| Solderability | Solder Temperature:265±5°C Duration time: 5±0.5 seconds. | J-STD-002 |
| Environmental characteristics | | |
| Thermal Shock | Heat cycle conditions -40 °C (30min) ↔ 85 °C (30min) * cycle time : 10 times | MIL-STD 883G method 1010.8 |
| Humidity test | Temperature : 85 ± 2 °C Relative humidity : 85% Duration : 96 hours | MIL-STD 202G method 103 |
| Dry heat (Aging test) | Temperature : 125 ± 2 °C Duration : 168 hours | MIL-STD 202G method 108A |
| Cold resistance (Low Temp Storage) | Temperature : -40 ± 2 °C Duration : 96 hours | IEC 60068-2-1 |



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.