

VCXO

VG-4231CE

SEIKO EPSON CORPORATION

Product name VG-4231CE 17.734475 MHz PSC-M

Product code / Ordering code Q3614CE000027xx

Please refer to the 8.Packing information about xx (last 2 digits)

Output waveform CMOS

Pb free / Complies with EU RoHS directive

Reference weight Typ.26 mg

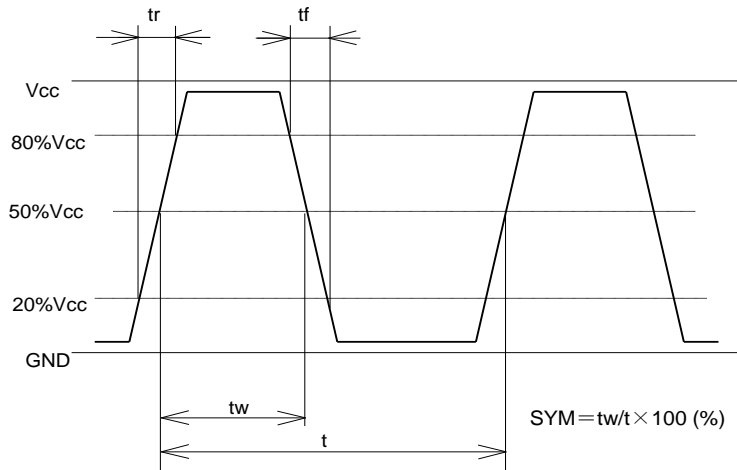
1.Absolute maximum ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions / Remarks |
|------------------------|---------|------|------|---------|------|--|
| Maximum supply voltage | Vcc-GND | -0.3 | - | +7 | V | - |
| Storage temperature | T_stg | -40 | - | +125 | °C | Storage as single product after unpacking. |
| Input voltage | Vin | -0.3 | - | Vcc+0.3 | V | Vc traminl |

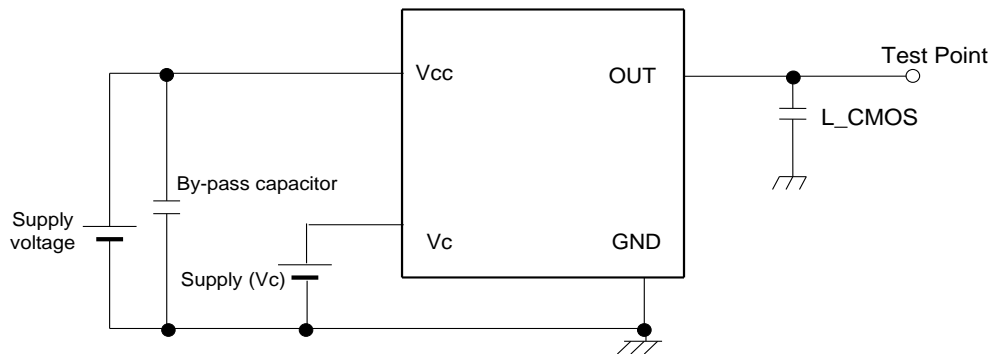
2.Specifications(characteristics)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions / Remarks |
|----------------------------|---------|----------|---------|----------|-------------------|------------------------|
| Output frequency | fo | | 17.7345 | | MHz | |
| Supply voltage | Vcc | 3 | 3.3 | 3.6 | V | - |
| Control voltage | Vc | 0 | 1.65 | 3.3 | V | Vc=1.65V+/-1.65V |
| Operating temperature | T_use | -40 | - | +85 | °C | - |
| Frequency tolerance | f_tol | -37 | - | +37 | x10 ⁻⁶ | T_use |
| Current consumption | Icc | - | - | 2.5 | mA | No load |
| Frequency control range | f_cont | +/-140 | - | - | x10 ⁻⁶ | - |
| Absolute pull range | APR | +/-95 | - | - | x10 ⁻⁶ | - |
| Modulation characteristics | BW | 15 | - | - | kHz | +/-3dB |
| Input resistance | Rin | 5 | - | - | MΩ | - |
| Linearity | F_LIN | - | - | +/-10 | % | - |
| Frequency change polarity | - | Positive | | | - | - |
| Symmetry | SYM | 40 | - | 60 | % | 50% Vcc level |
| Output voltage | V_OH | 90 % Vcc | - | - | V | I_OH = -3.0 mA |
| | V_OL | - | - | 10 % Vcc | V | I_OL = 3.0 mA |
| Output load condition | L_CMOS | - | - | 15 | pF | - |
| Rise time | tr | - | - | 4 | ns | 20%Vcc to 80%Vcc level |
| Fall time | tf | - | - | 4 | ns | 80%Vcc to 20%Vcc level |
| Start-up time | t_str | - | - | 5 | ms | t=0 at 90 %Vcc |
| Frequency aging | f_aging | -5 | - | 5 | x10 ⁻⁶ | 25°C, 5years |

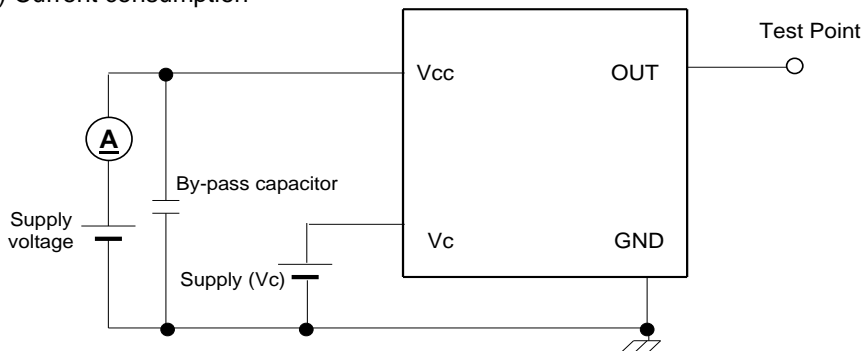
3. Timing chart



4. Test circuit

1) C-MOS load $CL=15\text{ pF}$ 

2) Current consumption



3) Condition

1. Oscilloscope

Impossible to measure both frequency and wave form at the same time.

(In case of using oscilloscope's amplifier output, possible to measure both at the same time.)

2. L_CMOS includes probe capacitance.

3. By-pass capacitor (0.01 μF to 0.1 μF) is placed closely between Vcc and GND.

4. Use the current meter whose internal impedance value is small.

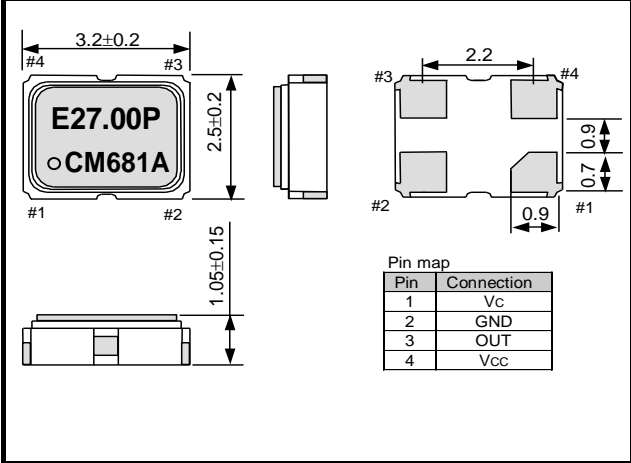
5. Power Supply

· Start up time (0 %Vcc \rightarrow 90 %Vcc) of power source should be more than 150 μs .

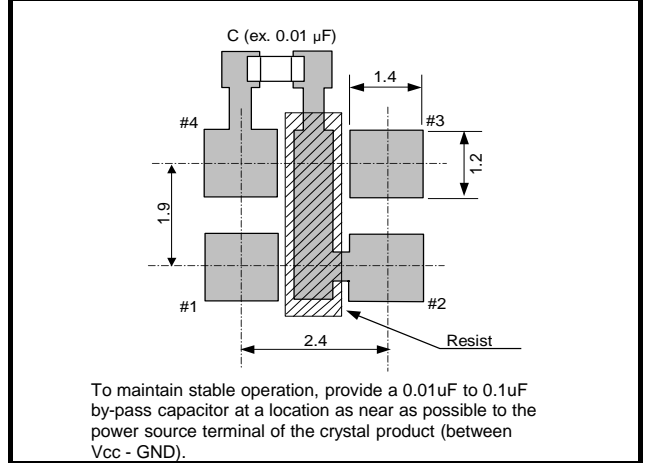
· Impedance of power supply should be as low as possible.

6. One point earth of test circuit is required.

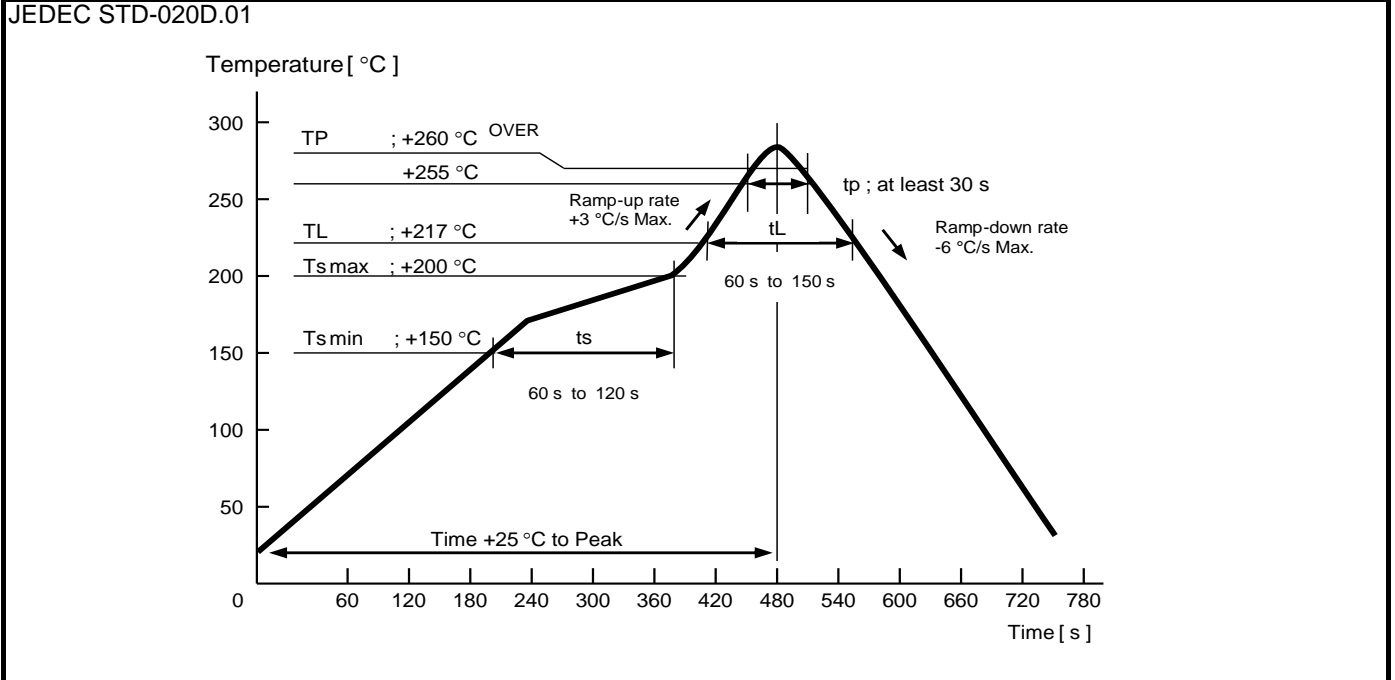
5.External dimensions (Unit: mm)



6.Footprint(Recommended) (Unit: mm)



7.Reflow profile



8.Packing information

[1] Product number last 2 digits code(xx) description The recommended code is "00"

Q3614CE000027xx

| Code | Condition | Code | Condition |
|------|------------------------------|------|---------------|
| 00 | 1000pcs / Reel | 12 | 250pcs / Reel |
| 01 | Any Q'ty vinyl bag(Tape cut) | 13 | 500pcs / Reel |
| 11 | Any Q'ty / Reel | 14 | 1kpcs / Reel |

[2] Taping specification

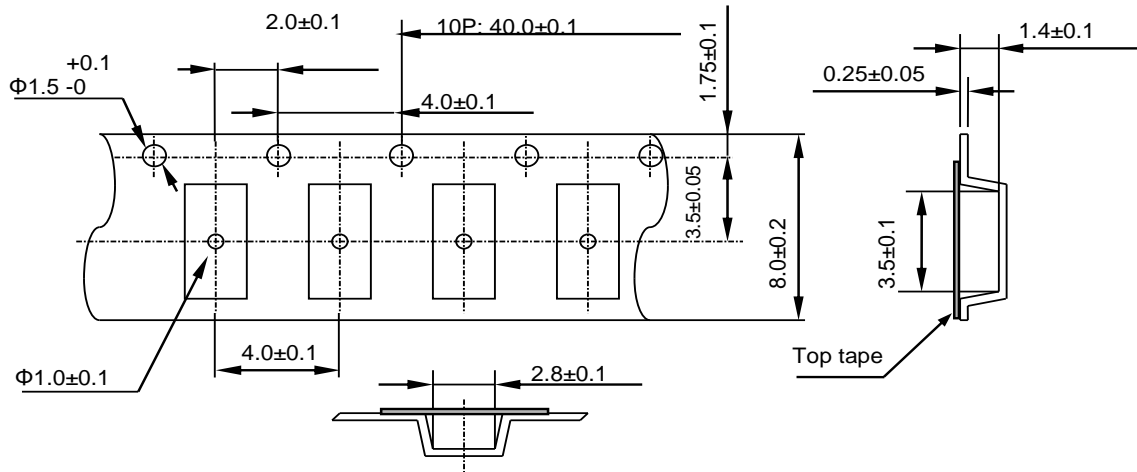
Subject to EIA-481 & IEC-60286

(1) Tape dimensions

Material of the Carrier Tape : PS

Material of the Top Tape : PET+PE

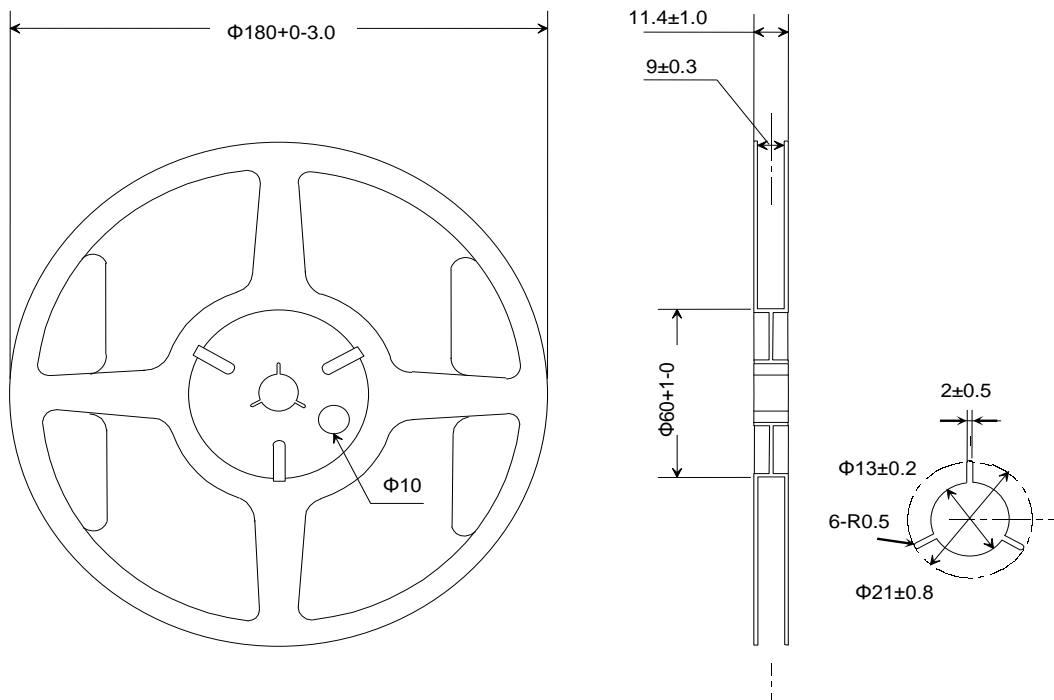
Unit: mm



(2) Reel dimensions

Material of the Reel : PS

Unit: mm



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