## kHz Range Crystal unit

# MC-306

### SEIKO EPSON CORPORATION

Product name Product Number / Ordering code

# MC-306 32.768000 kHz 6.2 +20.0-20.0 Q13MC30610017xx

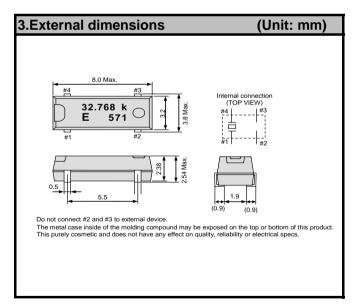
Please refer to the 5.Packing information about xx (last 2 digits)

Complies with EU RoHS directive

Reference weight Typ. 126 mg

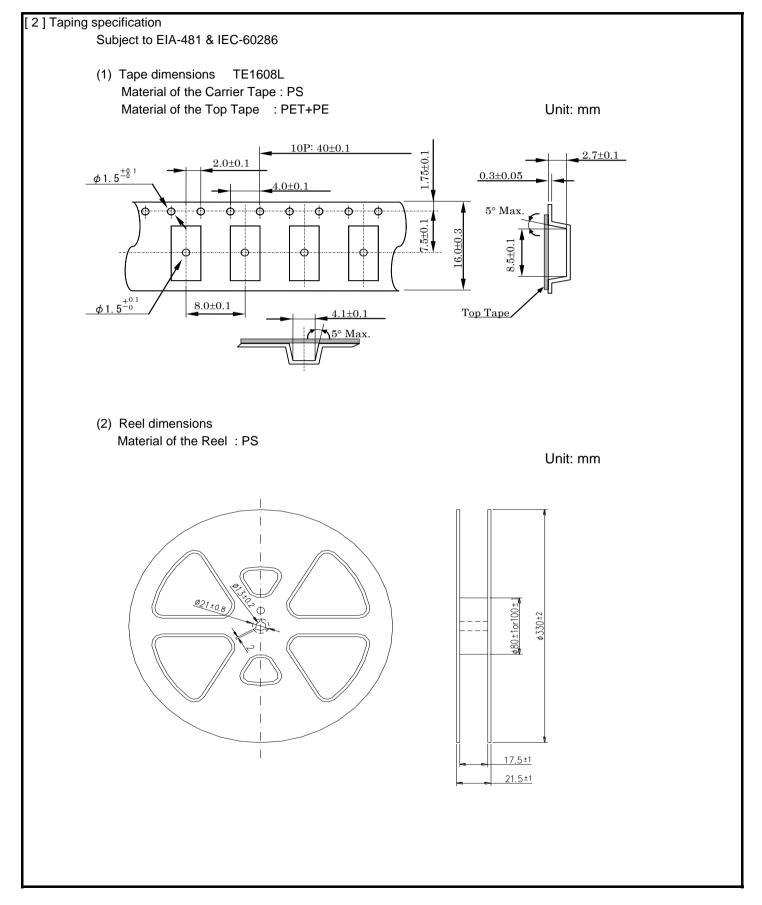
| 1.Absolute maximum ratings |        |      |      |      |      |                           |
|----------------------------|--------|------|------|------|------|---------------------------|
| Parameter                  | Symbol | Min. | Тур. | Max. | Unit | Conditions / Remarks      |
| Storage temperature        | T_stg  | -55  | -    | 125  | °C   | Storage as single product |
| Maximum drive level        | GL     | -    | -    | 1.0  | μW   |                           |

| 2.Specificatoins(characterist | ics)   |       |        |       |                                     |                      |
|-------------------------------|--------|-------|--------|-------|-------------------------------------|----------------------|
| Parameter                     | Symbol | Min.  | Тур.   | Max.  | Unit                                | Conditions / Remarks |
| Nominal frequency             | f_nom  | -     | 32.768 | -     | kHz                                 |                      |
| Operating temperature         | T_use  | -40   | -      | 85    | °C                                  |                      |
| Level of drive                | DL     | -     | -      | 1.0   | μW                                  |                      |
| Frequency tolerance           | f_tol  | -20.0 | -      | +20.0 | x 10⁻ <sup>6</sup>                  | +25°C DL=0.1µW       |
| Turnover temperature          | Ti     | 20    | 25     | 30    | °C                                  |                      |
| Parabolic coefficient         | В      | -     | -      | -0.04 | x 10 <sup>-6</sup> /°C <sup>2</sup> |                      |
| Load capacitance              | CL     | -     | 6.2    | -     | pF                                  |                      |
| Motional resistance (ESR)     | R1     | -     | 35     | 50    | kΩ                                  |                      |
| Motional capacitance          | C1     | -     | 1.8    | -     | fF                                  |                      |
| Shunt capacitance             | C0     | -     | 0.9    | -     | pF                                  |                      |
| Motional inductance           | L1     | -     | 11.7   | -     | kH                                  |                      |
| Frequency aging               | f_age  | -3    | -      | 3     | x10 <sup>-6</sup> /yea              | @+25°C, First year   |

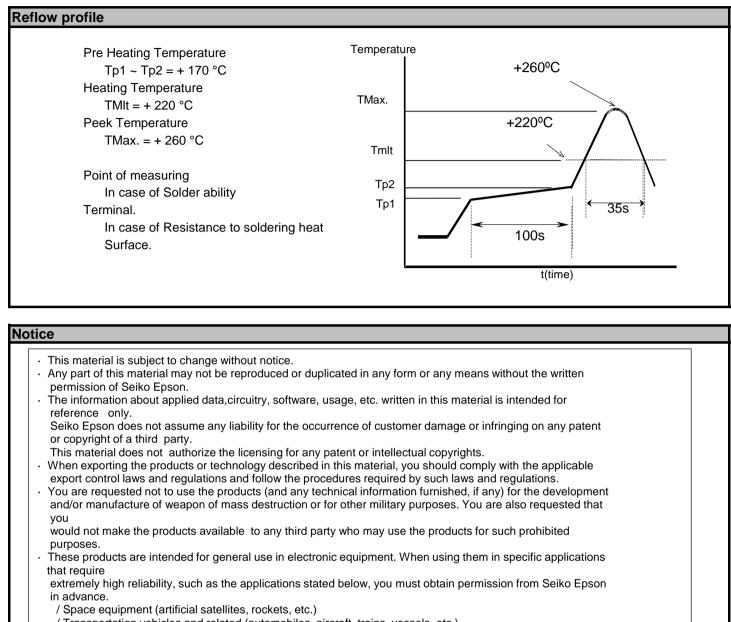


| 4.Footprint(Reco | mmended) | (Unit: mm)   |
|------------------|----------|--------------|
|                  |          |              |
|                  |          |              |
|                  |          | 0;<br>;<br>; |
| 1.3              | 4.2      | -            |
|                  |          |              |

| 5.Packing  | informati  | on                                |      |                              |
|------------|------------|-----------------------------------|------|------------------------------|
| [1]Product | number las | st 2 digits code (xx) description |      | The recommended code is "00" |
|            | Q13MC30    | 610017xx                          |      |                              |
|            | Code       | Condition                         | Code | Condition                    |
|            | 01         | Any Q'ty vinyl bag(Tape cut)      | 14   | 1000pcs / Reel               |
|            | 11         | Any Q'ty / Reel                   | 15   | 2000pcs / Reel               |
|            | 12         | 250pcs / Reel                     | 00   | 3000pcs / Reel               |
|            | 13         | 500pcs / Reel                     |      |                              |



### SEIKO EPSON CORPORATION



- / Transportation vehicles and related (automobiles, aircraft, trains, vessels, etc.)
- / Medical instruments to sustain life
- / Submarine transmitters
- / Power stations and related
- / Fire work equipment and security equipment
- / Traffic control equipment
- / And others requiring equivalent reliability.
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