## kHz Range Crystal unit

FC-135R

Product name

FC-135R 32.768000 kHz 12.5 +10.0-10.0

Product Number / Ordering code

X1A0001410005xx

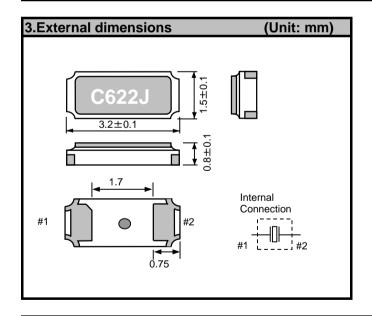
Disease Plants

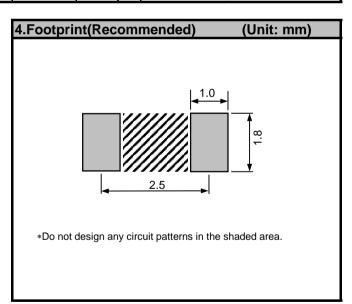
Please refer to the 5.Packing information about xx (last 2 digits)

Complies with EU RoHS directive Reference weight Typ. 11 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     | -    | 0.5  | -    | μW   |                           |

| 2.Specificatoins(characteristics) |        |      |        |       |                                     |                      |
|-----------------------------------|--------|------|--------|-------|-------------------------------------|----------------------|
| Parameter                         | Symbol | Min. | Тур.   | Max.  | Unit                                | Conditions / Remarks |
| Nominal frequency                 | f_nom  | -    | 32.768 | -     | kHz                                 |                      |
| Operating temperature             | T_use  | -40  | -      | +85   | ۰C                                  |                      |
| Level of drive                    | DL     | -    | 0.1    | -     | μW                                  |                      |
| Frequency tolerance               | f_tol  | -10  | -      | +10   | x 10 <sup>-6</sup>                  | +25°C DL=0.1µW       |
| Turnover temperature              | Ti     | +20  | +25    | +30   | ۰C                                  |                      |
| Parabolic coefficient             | В      | -    | -      | -0.04 | x 10 <sup>-6</sup> /°C <sup>2</sup> |                      |
| Load capacitance                  | CL     | -    | 12.5   | -     | pF                                  |                      |
| Motional resistance (ESR)         | R1     | -    | 35     | 50    | kΩ                                  |                      |
| Motional capacitance              | C1     | -    | 3.4    | -     | fF                                  |                      |
| Shunt capacitance                 | C0     | -    | 1.0    | -     | pF                                  |                      |
| Motional inductance               | L1     | -    | 7.0    | -     | kH                                  |                      |
| Frequency aging                   | f_age  | -3   | -      | +3    | x10 <sup>-6</sup> /yea              | @+25°C, First year   |





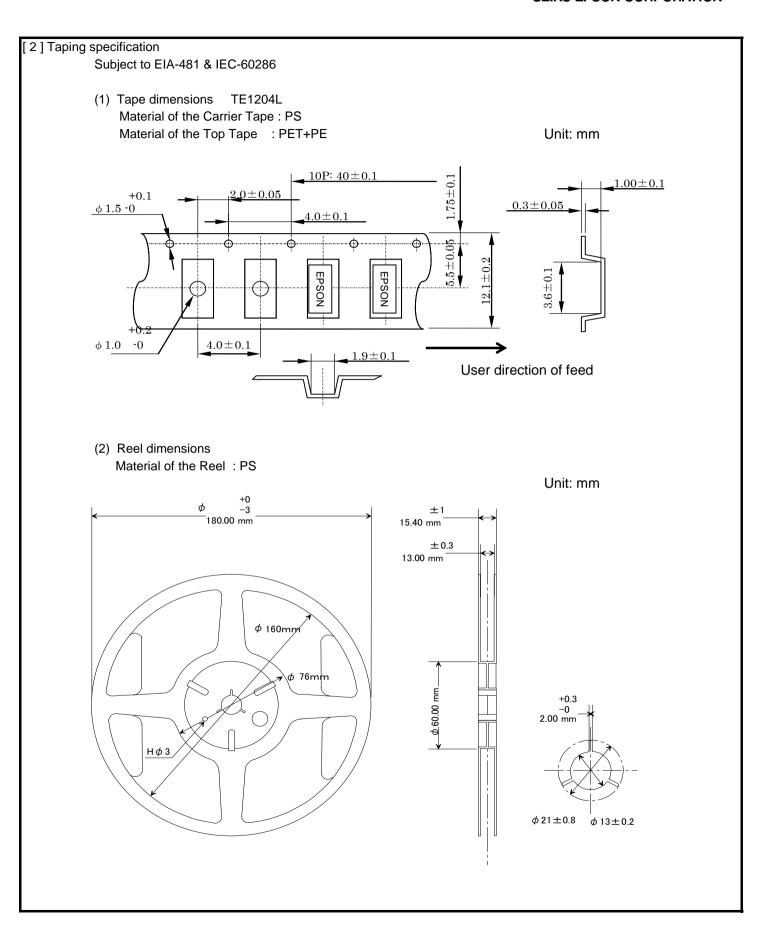
# **5.Packing information**[ 1 ]Product number last 2 digits code (xx) description

The recommended code is "00"

| X1A00014 | 10005xx |
|----------|---------|
| <u> </u> |         |

| 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**



## Reflow profile

Pre Heating Temperature

Tp1 ~ Tp2 = + 170 °C

**Heating Temperature** 

TMIt = + 220 °C

Peek Temperature

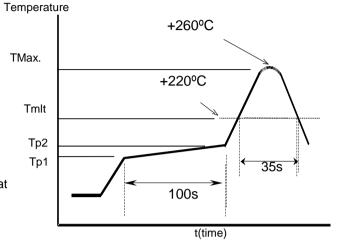
TMax. = + 260 °C

Point of measuring

In case of Solder ability

Terminal.

In case of Resistance to soldering heat Surface.



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