# MHz Range Crystal unit

TSX-3225

Product name TSX-3225 39.000000 MHz 10.0 +10.0-10.0 Product Number / Ordering code X1E0000211131xx

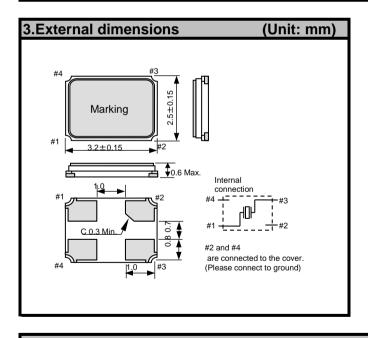
Please refer to the 5.Packing information about xx (last 2 digits)

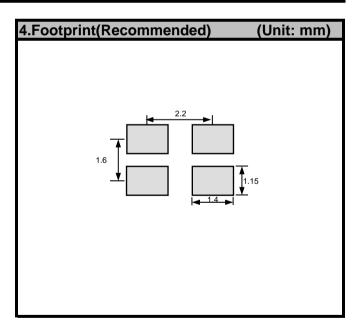
Pb free / Complies with EU RoHS directive

Reference weight Typ. 17 mg

| 1.Absolute maximum ratings |        |      |      |      |      |                           |
|----------------------------|--------|------|------|------|------|---------------------------|
| Parameter                  | Symbol | Min. | Тур. | Max. | Unit | Conditions / Remarks      |
| Storage temperature        | T_stg  | -40  | -    | +125 | °C   | Storage as single product |
| Operating temperature      | T_use  | -40  | -    | +105 | °C   |                           |

| 2.Specifications(characteristics)    |        |      |           |      |                        |                      |
|--------------------------------------|--------|------|-----------|------|------------------------|----------------------|
| Parameter                            | Symbol | Min. | Тур.      | Max. | Unit                   | Conditions / Remarks |
| Nominal frequency                    | f_nom  | -    | 39.000000 | _    | MHz                    | Fundamental          |
| Frequency tolerance                  | f_tol  | -10  | _         | +10  | x 10- <sup>6</sup>     | @+25°C               |
| Frequency Stability over temperature | f_tem  | -10  | -         | +10  | x 10 <sup>-6</sup>     | -20°C to +75°C       |
| Operating temperature                | T_use  | -20  | _         | +75  | °C                     |                      |
| Level of drive                       | DL     | 10   | 100       | 200  | μW                     |                      |
| Load capacitance                     | CL     | _    | 10        | _    | pF                     |                      |
| Motional resistance (ESR)            | R1     | _    | -         | 40   | Ω                      |                      |
| Motional capacitance                 | C1     | -    | 4.26      | -    | fF                     |                      |
| Motional inductance                  | L1     | -    | 3.91      | -    | mH                     |                      |
| Shunt capacitance                    | C0     | _    | 1.28      | -    | pF                     |                      |
| Frequency aging                      | f_age  | -1   | _         | +1   | x10 <sup>-6</sup> /yea | @+25°C, First year   |





## 5.Packing information

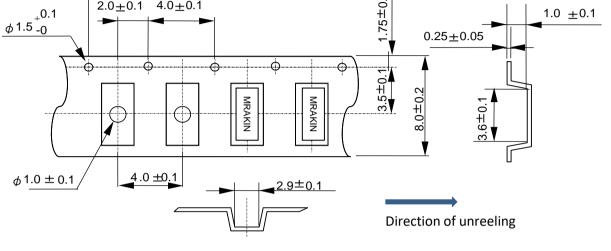
[ 1 ]Product number last 2 digits code (xx) description

The recommended code is "17"

X1E0000211131xx

| Code | Condition                    | Code | Condition      |
|------|------------------------------|------|----------------|
| 01   | Any Q'ty vinyl bag(Tape cut) | 00   | 2000pcs / Reel |
| 11   | Any Q'ty / Reel              | 16   | 3000pcs / Reel |
| 12   | 250pcs / Reel                | 17   | 4000pcs / Reel |
| 14   | 1000pcs / Reel               |      |                |

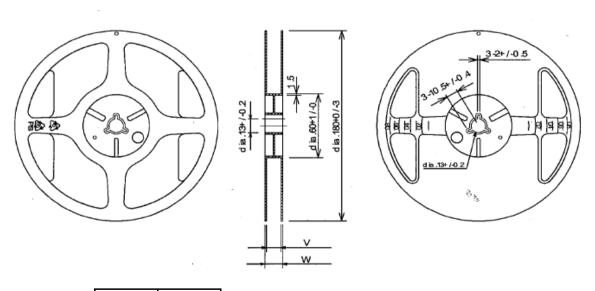
# SEIKO EPSON CORPORATION [2] Taping specification Subject to EIA-481 & IEC-60286 (1) Tape dimensions TE0804L Material of the Carrier Tape: PS Material of the Top Tape: PET+PE Unit: mm



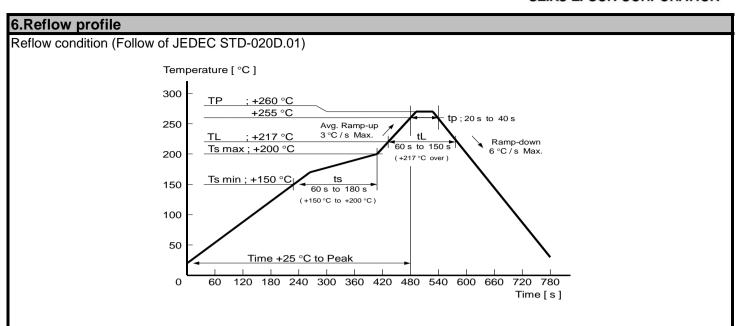
(2) Reel dimensions

Center material : PS Material of the Reel : PS

Unit: mm



V(mm) W(mm) 9.0+/-0.3 11.4+/-1



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