## MHz Range Crystal unit FA-128

Product name FA-128 48.000000 MHz 10.0 +10.0-10.0 Product Number / Ordering code Q22FA12800150xx

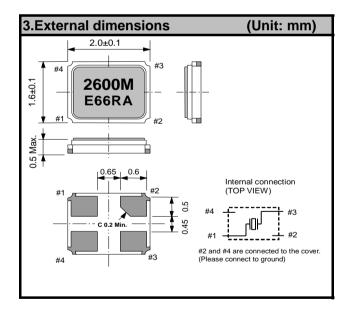
Please refer to the 5.Packing information about xx (last 2 digits)

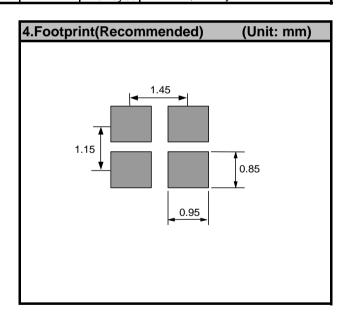
Pb free / Complies with EU RoHS directive

Reference weight Typ. 7 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   |                           |

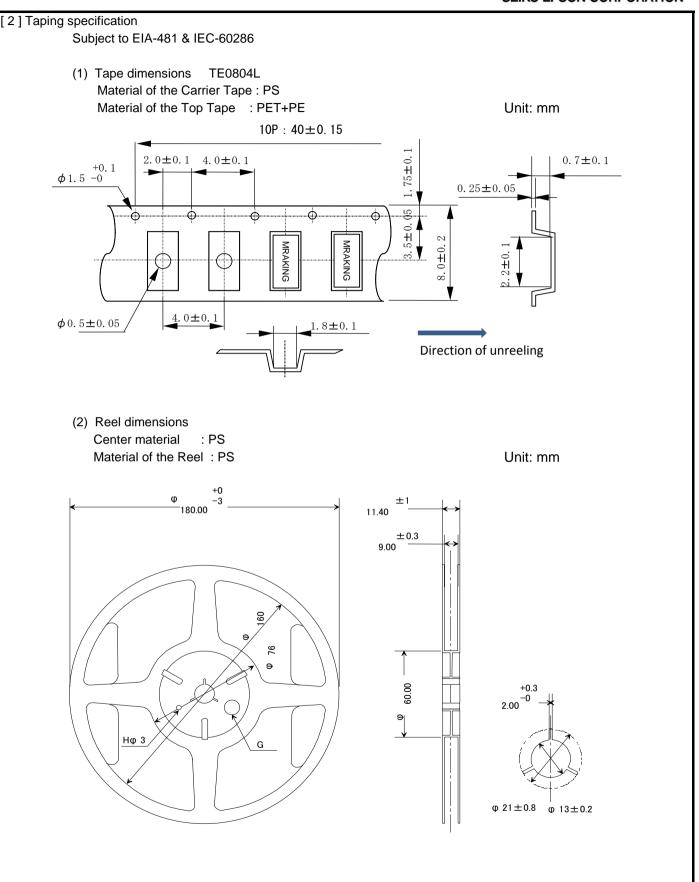
| 2.Specifications(characteristics)    |        |      |           |      |                        |                      |
|--------------------------------------|--------|------|-----------|------|------------------------|----------------------|
| Parameter                            | Symbol | Min. | Тур.      | Max. | Unit                   | Conditions / Remarks |
| Nominal frequency                    | f_nom  | _    | 48.000000 | _    | MHz                    | Fundamental          |
| Frequency tolerance                  | f_tol  | -10  | -         | +10  | x 10- <sup>6</sup>     | @+25°C               |
| Frequency Stability over temperature | f_tem  | -20  | -         | +20  | x 10 <sup>-6</sup>     | -40°C to +85°C       |
| Operating temperature                | T_use  | -40  | -         | +85  | °C                     |                      |
| Level of drive                       | DL     | 10   | -         | 100  | μW                     |                      |
| Load capacitance                     | CL     | _    | 10        | _    | pF                     |                      |
| Motional resistance (ESR)            | R1     | -    | -         | 60   | Ω                      |                      |
| Motional capacitance                 | C1     | -    | 3.33      | -    | fF                     |                      |
| Motional inductance                  | L1     | -    | 3.30      | -    | mH                     |                      |
| Shunt capacitance                    | C0     | -    | 0.86      | -    | pF                     |                      |
| Frequency aging                      | f_age  | -1   | _         | +1   | x10 <sup>-6</sup> /yea | @+25°C, First year   |

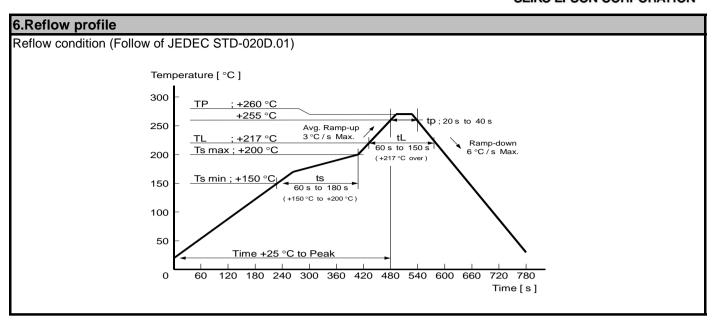




| 5.Packing   | informat | ion                          |                              |                |  |
|---|----------|------------------------------|------------------------------|----------------|--|
| [ 1 ]Product number last 2 digits code (xx) description |          |                              | The recommended code is "18" |                |  |
|   | Q22FA12  | 800150xx                     |                              |                |  |
|   | Code     | Condition                    | Code                         | Condition      |  |
|   | 01       | Any Q'ty vinyl bag(Tape cut) | 00                           | 3000pcs / Reel |  |
|   | 11       | Any Q'ty / Reel              | 18                           | 5000pcs / Reel |  |
|   | 12       | 250pcs / Reel                |                              |                |  |
|   | 14       | 1000pcs / Reel               |                              |                |  |

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