



## MHz RANGE CRYSTAL UNIT

### ULTRA MINIATURE SIZE LOW PROFILE SMD

# FA-128

- Nominal frequency range : 16 MHz to 54 MHz
- External dimensions : 2.0 × 1.6 × 0.5 mm
- Overtone order : Fundamental
- Applications : Mobile phone, Bluetooth, W-LAN  
ISM band radio, Clock for MPU



Product Number (please contact us)  
Q22FA1280xxx00



Actual size



## Specifications (characteristics)

| Item  | Symbol           | Specifications                    |                                   | Conditions / Remarks   |
|---|------------------|-----------------------------------|-----------------------------------|--|
|   |                  | For RF Reference                  | For Clock                         |  |
| Nominal frequency range                                 | f <sub>nom</sub> | 16.000 MHz to 54.000 MHz          |                                   | Fundamental<br>Please contact us for inquiries regarding the available frequencies.          |
| Storage temperature range                               | T <sub>stg</sub> | -40 °C to +125 °C                 |                                   | Store as bare product.   |
| Operating temperature range                             | T <sub>use</sub> | -40 °C to +85 °C                  |                                   |  |
| Level of drive  | DL               | 100 μW Max.                       | 200 μW Max.                       | Recommended: 1 to 100 μW   |
| Frequency tolerance (standard)                          | f <sub>tol</sub> | ±10 × 10 <sup>-6</sup> *1         | ±30 × 10 <sup>-6</sup>            | +25 °C<br>For the out of standard specifications, please contact us for inquiries.           |
| Frequency versus temperature characteristics (standard) | f <sub>tem</sub> | ±10 × 10 <sup>-6</sup> *1         | ±30 × 10 <sup>-6</sup>            | -20 °C to +75 °C<br>For the out of standard specifications, please contact us for inquiries. |
| Load capacitance  | CL               | 6 pF to ∞                         |                                   | Please specify.  |
| Motional resistance (ESR)                               | R <sub>1</sub>   | As per below table                |                                   | -20 °C to +75 °C   |
| Frequency aging   | f <sub>age</sub> | ±1 × 10 <sup>-6</sup> / year Max. | ±5 × 10 <sup>-6</sup> / year Max. | +25 °C, First year   |

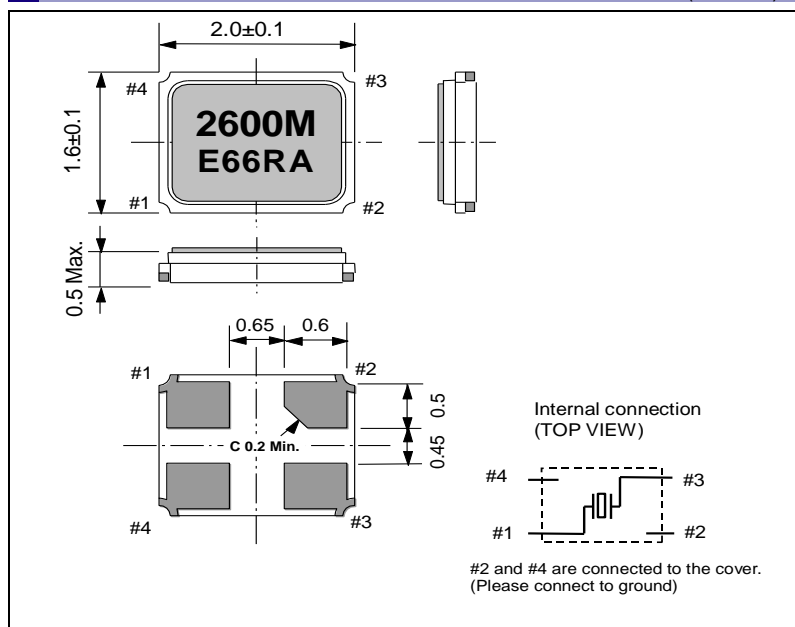
\*1 Please contact us for inquiries regarding available frequency tolerance.

## Motional resistance (ESR)

| Frequency                              | Motional resistance |
|--|---------------------|
| 16.0 MHz ≤ f <sub>nom</sub> < 18.0 MHz | 250 Ω Max.          |
| 18.0 MHz ≤ f <sub>nom</sub> < 20.0 MHz | 150 Ω Max.          |
| 20.0 MHz ≤ f <sub>nom</sub> < 24.0 MHz | 100 Ω Max.          |
| 24.0 MHz ≤ f <sub>nom</sub> < 26.0 MHz | 80 Ω Max.           |
| 26.0 MHz ≤ f <sub>nom</sub> ≤ 54.0 MHz | 60 Ω Max.           |

## External dimensions

(Unit:mm)



## Footprint (Recommended)

(Unit:mm)

