## 3225H SMX-4 (RF Clock Series)

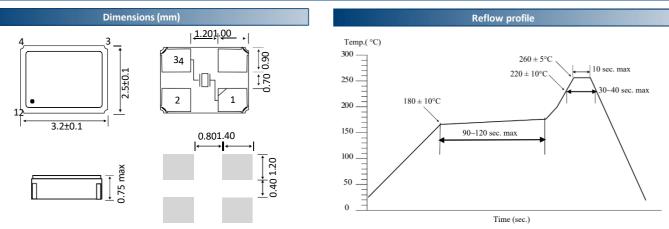
### 3.2 x 2.5mm Crystal unit



RoHS & REACH compliant
Small outline SMD crystal
Highly reliable seam seal 4 pad ceramic package
Low aging crystal, specifically designed for RF applications, UAVs and Drones



| Parameters                                 |                  |       | Specification      | Remarks  |  |  |
|--|------------------|-------|--------------------|--|--|--|
| Frequency range                            |                  | F_nom | 8.00MHz ~ 64.00MHz | Fundamental                                      |  |  |
| Frequency tolerance                        |                  | F_tol | ±10.0ppm           |  |  |  |
| Frequency stability over temperature range |                  | F_stb | ±10.0ppm           | Over -30°C ~ +85°C                               |  |  |
| Frequency aging                            |                  | F_age | ±1.0ppm            | At 25°C, 1st Year                                |  |  |
| Operable temperature range                 |                  | T_opr | -40°C ~ +85°C      | -40°C ~ +125°C option available. Please enquire. |  |  |
| Storage temperature                        |                  | T_stg | -55°C ~ +85°C      |  |  |  |
| Load capacitance                           |                  | CL    | 8.0pF ~ 16.0pF     | 6.0pF ~ 20.0pF option available. Please enquire. |  |  |
|  | 8.0 ~ 9.999MHz   |       | 300Ω max           |  |  |  |
|  | 10.0 ~ 15.999MHz | ESR   | 150Ω max           |  |  |  |
| Equivalent series resistance               | 16.0 ~ 19.999MHz |       | 80Ω max            |  |  |  |
| 4  | 20.0 ~ 23.999MHz |       | 60Ω max            |  |  |  |
|  | 24.0 ~ 64.000MHz |       | 50Ω max            |  |  |  |
| Shunt capacitance                          |                  | C0    | 3.0pF max          |  |  |  |
| Drive level                                |                  | DL    | 200μW max          | 100μW typical                                    |  |  |
| Moisture sensitivity level                 |                  |       | 1 (unlimited)      |  |  |  |
| Insulation resistance                      |                  |       | 500M $\Omega$ min  | At 100V DC                                       |  |  |



| Part number generation  |  |  |  |  |   |  |   |   |  |  |
|---|--|--|--|--|---|--|---|---|--|--|
| 2700  | -RF-   | КО   | M  | E  | F   | 1  | L   | -PF   |  |  |
| Frequency<br>(MHz)  | RF<br>series   | Load<br>capacitance<br>(CL-pF)   | Operable<br>Temperature<br>Range (°C)  | Frequency<br>Tolerance<br>(±ppm)   | Frequency<br>stability over<br>temperature<br>-30°C~+85°C | 122 year<br>Aging<br>(±ppm) at<br>25°C                 | Packaging<br>(Tape & Reel)  | RoHS  |  |  |
| 8MHz= 0800 27MHz = 2700 Note: Use the first 4 characters of the frequency in Hz  i.e.: 27MHz = 27000000Hz Part code = 2700  If the frequency is 100MHz or | -RF-   | 8 = GO<br>9 = JO<br>10 = KO<br>11 = MO<br>12 = OO<br>14 = ZO<br>16 = RO  | -40 ~ +85 = M  | ±10 = E  | ±10 = F   | ±1 = 1   | Loose = L<br>3000pcs = D  | RoHS = -PF  |  |  |
|   | Frequency (MHz)  8MHz= 0800 27MHz = 2700  Note: Use the first 4 characters of the frequency in Hz  i.e.: 27MHz = 27000000Hz Part code = 2700 | Frequency (MHz)  8MHz= 0800 27MHz = 2700 Note: Use the first 4 characters of the frequency in Hz  i.e.: 27MHz = 2700000Hz Part code = 2700  If the frequency is 100MHz or higher then the first 5 characters | 2700         -RF-         KO           Frequency (MHz)         RF series         Load capacitance capacitance (CL-pF)           8MHz= 0800 27MHz = 2700         27MHz = 2700         8 = GO 9 = JO           Note: Use the first 4 characters of the frequency in Hz         9 = JO         10 = KO 11 = MO 12 = OO 14 = ZO 16 = RO           i.e.: 27MHz = 27000000Hz Part code = 2700         -RF- 14 = ZO 16 = RO         16 = RO | Frequency (MHz)  RF series  RF se | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$    | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | Frequency (MHz)  RF series  RF series  CL -pF)  RF series  CL -pF)  RF series  CD perable Temperature Range (°C)  RF series  RF series  CL -pF)  RF series  Range (°C)  RF series  Frequency stability over temperature (±ppm) at 25°C  Representation of the frequency in Hz  Representation of the frequency in H | Frequency (MHz)  RF series  CL-pF)  Reperature Range (°C)  Frequency Stability over temperature temperature temperature temperature stability over temperature temperature stability over temperature temperature stability over temperature temperature temperature stability over temperature temperature stability over temperature temperature stability over temperature temperature stability over temperature stability o |  |  |

Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below. Full Example Part Number: BNH2700-RF-KOMEF1L-PF [27.000MHz], BNH2457-RF-KOMEF1L-PF [24.576MHz]

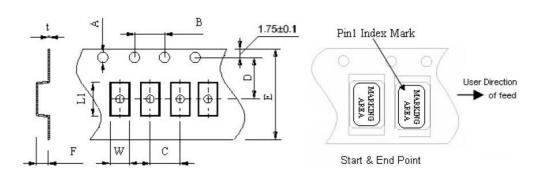
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3.2 x 2.5mm Crystal unit



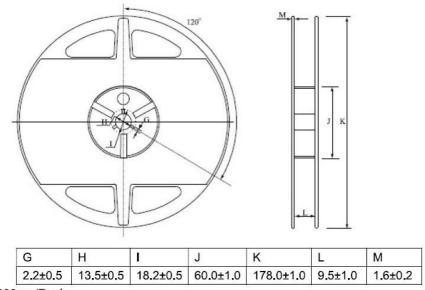
#### Tape and Reel Specification (mm)

#### Tape Dimensions(unit: mm)



| Α       | В       | С       | D       | E       | F       | L1      | W       | t         |
|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| 1.5±0.1 | 4.0±0.1 | 4.0±0.1 | 3.5±0.1 | 8.0±0.1 | 0.8±0.1 | 3.4±0.1 | 2.7±0.1 | 0.25±0.05 |

#### Reel Dimensions(unit: mm)



\*3000pcs/Reel

Drawing control: (Internal use only) Commodity code: 854160 00 00 Issue number: 4 Date: 20/06/2025 Internal reference: H2