

## MINIATURE CERAMIC SMD CRYSTAL (5.0 x 3.2 x 1.0mm)

### FEATURES:

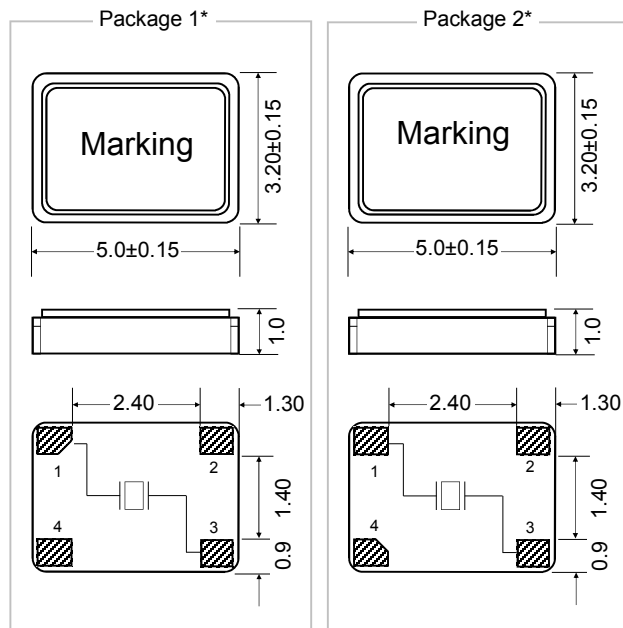
- HIGH FREQUENCY RANGE
- LOW COST SMD PACKAGE
- LOW PROFILE / SUITABLE FOR REFLOW



### ■ SPECIFICATION

|                              |  |
|------------------------------|--|
| FREQUENCY RANGE              | 7.3728MHz ~ 270.000MHz   |
| FREQUENCY TOLERANCE @ 25°C   | ±30ppm (See P/N guide for other options)   |
| FREQUENCY STABILITY          | ±50ppm (See P/N guide for other options)   |
| OPERATING TEMPERATURE        | STD: 0°C ~ 70°C, Option: -40°C ~ 85°C (See P/N guide for other options)  |
| STORAGE TEMPERATURE RANGE    | -55°C ~ 105°C  |
| LOAD CAPACITANCE             | STD: 18pF (See P/N guide for other options)  |
| SHUNT CAPACITANCE            | 5.0pF max.   |
| INSULATION RESISTANCE        | 500MΩ min. @ 100V <sub>DC</sub> ± 15V <sub>DC</sub>  |
| DRIVE LEVEL                  | 500μW max.   |
| AGING @ 25°C ± 3°C           | ±3.0ppm / 1 <sup>st</sup> year max.  |
| EQUIVALENT SERIES RESISTANCE | <b>Fundamental:</b> 7.000MHz ~ 10.000MHz: 100Ω max.    10.001MHz ~ 12.000MHz: 60Ω max.<br><b>Fundamental:</b> 12.001MHz ~ 19.000MHz: 50Ω max.    19.001MHz ~ 40.000MHz: 40Ω max.<br><b>3<sup>rd</sup> overtone:</b> 40.001MHz ~ 60.000MHz: 70Ω max.    60.001MHz ~ 170.000MHz: 100Ω max.<br><b>5<sup>th</sup> overtone:</b> 170.001MHz ~ 270.000MHz: 160Ω max. |
| OPERATION MODE               | Fundamental, 3 <sup>rd</sup> overtone, 5 <sup>th</sup> overtone  |

### ■ PACKAGE DIMENSIONS

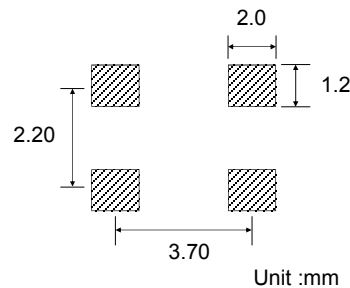


\* Package 1 and 2 are provided interchangeably based on material availability.  
 \*\* Different chamfer location between package 1 and 2.

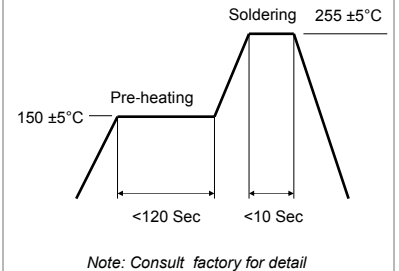
Unit : mm

| Pin Configuration |      |
|-------------------|------|
| 1                 | Xtal |
| 2                 | GND  |
| 3                 | Xtal |
| 4                 | GND  |

### ■ SOLDER PATTERN



### ■ REFLOW PROFILE



### ■ PART NUMBERING GUIDE

| CS53A   | F | 30   | 50 | HM   | 18 | 40.000M              | TR |
|---|---|--|----|--|----|----------------------|----|
| <b>Mode</b>   |   | <b>Stability</b>   |    | <b>Load Capacitance</b>  |    | <b>Other Options</b> |    |
| F: Fundamental<br>T: 3 <sup>rd</sup> overtone<br>B: 5 <sup>th</sup> overtone                            |   | 00: ± 100ppm<br>50: ± 50ppm<br>25: ± 25ppm<br>15: ± 15ppm<br>10: ± 10ppm<br>XX: Two digit for Stability  |    | 08: 8pF    20: 20pF<br>10: 10pF    22: 22pF<br>12: 12pF    24: 24pF<br>16: 16pF    28: 28pF<br>18: 18pF    32: 32pF<br>S: Series |    | TR: Tape and reel    |    |
| <b>Tolerance @ 25°C</b>   |   | <b>Operating Temperature</b>   |    | <b>Frequency</b>   |    | M: MHz               |    |
| 00: ± 100ppm<br>50: ± 50ppm<br>30: ± 30ppm<br>25: ± 25ppm<br>10: ± 10ppm<br>XX: Two digit for Tolerance |   | A: -55    F: -20    M: 70    S: 100<br>B: -50    G: -10    N: 75    T: 105<br>C: -40    H: 0    P: 80    U: 125<br>D: -35    J: 50    Q: 85    X: custom<br>E: -30    K: 60    R: 90 |    | M: MHz   |    |                      |    |

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