

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

### FEATURES:

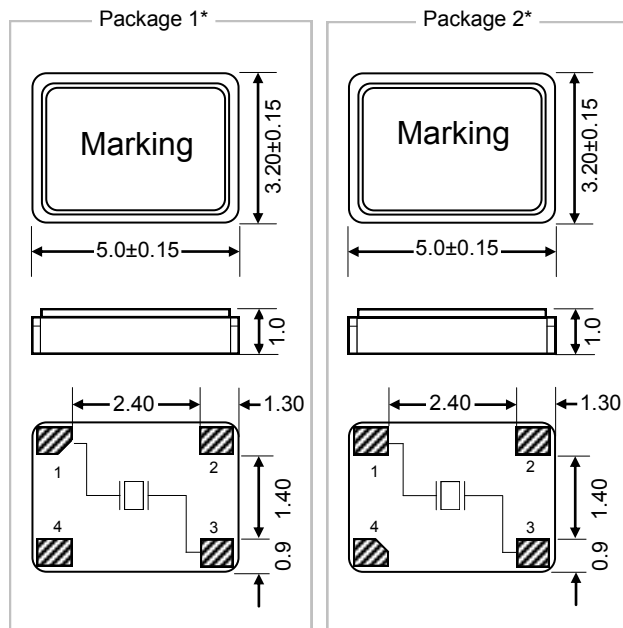
- HIGH FREQUENCY RANGE
- LOW COST SMD PACKAGE
- LOW PROFILE / SUITABLE FOR REFLOW



### ■ 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. <b>Fundamental:</b> 12.001MHz ~ 19.000MHz: 50Ω max.    19.001MHz ~ 40.000MHz: 40Ω max. <b>3<sup>rd</sup> overtone:</b> 40.001MHz ~ 60.000MHz: 70Ω max.    60.001MHz ~ 170.000MHz: 100Ω max. <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

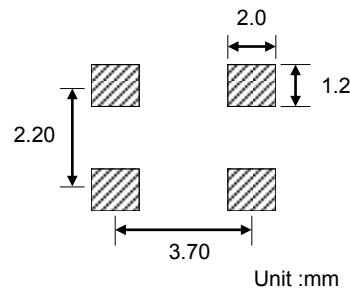


\* Package 1 and 2 are provided interchangeably based on material availability.  
 \*\* Different chamfer location between package 1 and 2.

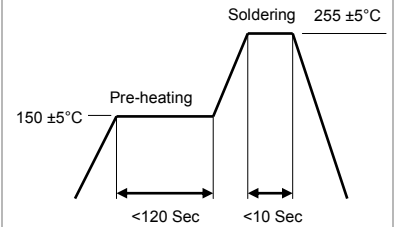
Unit : mm

Pin Configuration	
1	Xtal
2	GND
3	Xtal
4	GND

### ■ SOLDER PATTERN



### ■ REFLOW PROFILE



Note: Consult factory for detail

### ■ PART NUMBERING GUIDE

CS53A - F - 30 - 50 - HM - 18 - 40.000M - TR

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

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