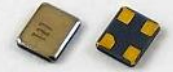


ULTRA MINIATURE CERAMIC SMD CRYSTAL (2.0 x 1.6 x 0.5mm)

FEATURES:

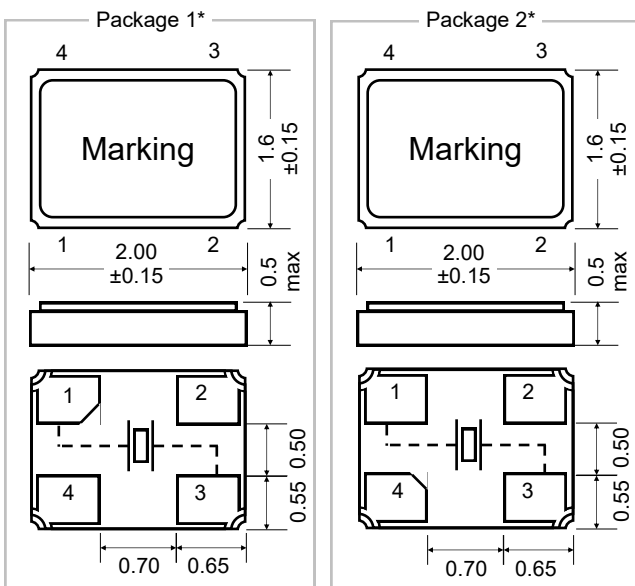
- TIGHT TOLERANCE AND STABILITY AVAILABLE
- AUTOMOTIVE GRADE AEC-Q200 QUALIFIED VERSION AVAILABLE
- SUITABLE FOR ROHS REFLOW



■ SPECIFICATION

FREQUENCY RANGE	16.000MHz ~ 60.000MHz		
STANDARD FREQUENCIES	20.000000MHz 22.000000MHz 24.576000MHz 28.636363MHz 36.000000MHz	20.480000MHz 24.000000MHz 26.000000MHz 32.000000MHz 40.000000MHz	20.250000MHz 24.545450MHz 27.000000MHz 32.768000MHz 60.000000MHz
FREQUENCY TOLERANCE @ 25°C	±10ppm ~ 50ppm (See P/N guide for other options)		
FREQUENCY STABILITY	±10ppm ~ 50ppm (See P/N guide for other options)		
OPERATING TEMPERATURE RANGE	STD: 0°C ~ 70°C, Option: -40°C ~ 85°C (See P/N guide for other options)		
STORAGE TEMPERATURE RANGE	-55°C ~ 125°C		
LOAD CAPACITANCE	STD: 8pF (See P/N guide for other options)		
SHUNT CAPACITANCE	3.5pF max.		
INSULATION RESISTANCE	500MΩ min. @ 100V _{DC} ± 15V _{DC}		
DRIVE LEVEL	200μW max.		
AGING @ 25°C ± 3°C	±2.0ppm / 1 st year max.		
EQUIVALENT SERIES RESISTANCE	16.000MHz ~ 20.000MHz: 150Ω max. 25.001MHz ~ 40.000MHz: 60Ω max.	20.001MHz ~ 25.000MHz: 80Ω max. 40.001MHz ~ 60.000MHz: 50Ω max.	
OPERATION MODE	AT cut, Fundamental		

■ PACKAGE DIMENSIONS

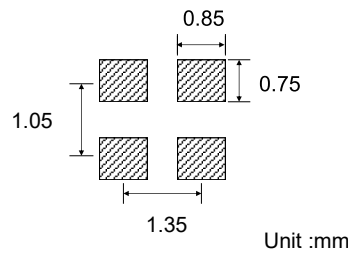


Pin Configuration	
1	Xtal
2	GND
3	Xtal
4	GND

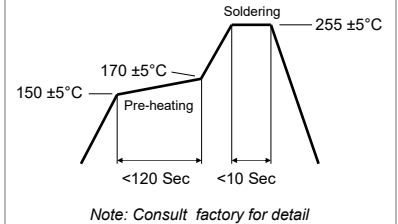
* Package 1 and 2 are provided interchangeably based on material availability.
** Different chamfer location between package 1 and 2.

Unit : mm

■ SOLDER PATTERN



■ REFLOW PROFILE



■ PART NUMBERING GUIDE

CS21 - F 50 50 HM 08 - 26.000M - TR

Product series CS21	Stability 50: ± 50ppm 30: ± 30ppm (standard) 25: ± 25ppm 20: ± 20ppm 15: ± 15ppm 10: ± 10ppm XX: Two digit for Tolerance	Load Capacitance 07: 7pF 20: 20pF 08: 8pF 22: 22pF 10: 10pF 24: 24pF 12: 12pF 28: 28pF 16: 16pF 32: 32pF 18: 18pF S: Series	Options Q: AEC-Q200 Qualified TR: Tape and reel
Mode F: Fundamental	Tolerance @ 25°C 50: ± 50ppm 30: ± 30ppm (standard) 25: ± 25ppm 20: ± 20ppm 15: ± 15ppm 10: ± 10ppm XX: Two digit for Tolerance	Operating Temperature 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	Frequency M: MHz

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