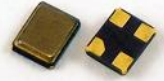


MINIATURE CERAMIC SMD CRYSTAL (3.2 x 2.5 x 0.7mm)

FEATURES:

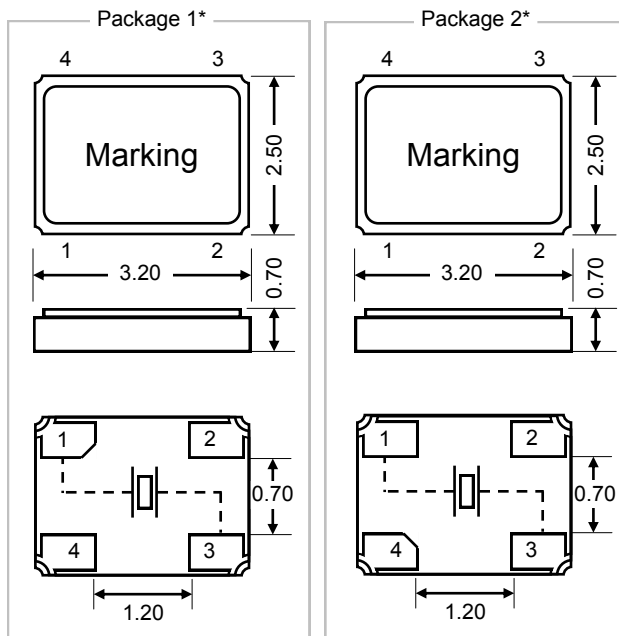
- WIDE FREQUENCY RANGE
- LOW COST SMD PACKAGE
- LOW PROFILE / SUITABLE FOR REFLOW



■ SPECIFICATION

FREQUENCY RANGE	8.000MHz ~ 156.25MHz
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 (See P/N guide for other options)
STORAGE TEMPERATURE RANGE	-55°C ~ 125°C
LOAD CAPACITANCE	STD: 18pF (See P/N guide for other options)
SHUNT CAPACITANCE	3.5pF max.
INSULATION RESISTANCE	500MΩ min. @ 100V _{DC} ± 15V _{DC}
DRIVE LEVEL	300μW max.
AGING @ 25°C ± 3°C	±2.0ppm / 1 st year max.
EQUIVALENT SERIES RESISTANCE	Fundamental: 8.000MHz ~ 9.000MHz: 800Ω max. 10.001MHz ~ 11.000MHz: 120Ω max. Fundamental: 11.001MHz ~ 12.000MHz: 120Ω max. 12.001MHz ~ 13.000MHz: 100Ω max. Fundamental: 13.001MHz ~ 16.000MHz: 80Ω max. 16.001MHz ~ 21.000MHz: 70Ω max. Fundamental: 21.001MHz ~ 30.000MHz: 60Ω max. 30.001MHz ~ 60.000MHz: 50Ω max. 3rd Overtone: 60.001MHz ~ 156.250MHz: 100Ω max.
OPERATION MODE	AT cut, Fundamental or 3rd Overtone

■ PACKAGE DIMENSIONS

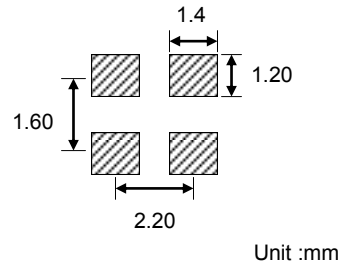


* Package 1 and 2 are provided interchangeably based on material availability.
 ** Different chamfer location between package 1 and 2.

Pin Configuration	
1	Xtal
2	GND
3	Xtal
4	GND

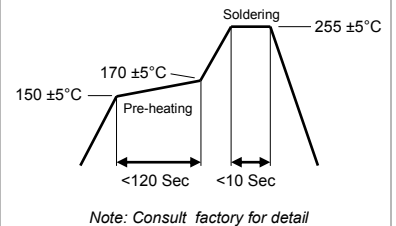
Unit : mm

■ SOLDER PATTERN



Unit : mm

■ REFLOW PROFILE



Note: Consult factory for detail

■ PART NUMBERING GUIDE

CS32	F	00	00	HM	18	40.000M	TR
Mode	F: Fundamental T: 3 rd overtone	Stability	00: ± 100ppm 50: ± 50ppm 25: ± 25ppm 15: ± 15ppm 10: ± 10ppm XX: Two digit for Stability	Load Capacitance	08: 8pF 10: 10pF 12: 12pF 16: 16pF 18: 18pF S: Series	Other Options	TR: Tape and reel
Tolerance @ 25°C	00: ± 100ppm 50: ± 50ppm(standard) 30: ± 30ppm 25: ± 25ppm 10: ± 10ppm XX: Two digit for Tolerance	Operating Temperature	A: -55 B: -50 C: -40 D: -35 E: -30	F: -20 G: -10 H: 0 J: 50 K: 60	M: 70 N: 75 P: 80 Q: 85 R: 90	Frequency	M: MHz

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