

### CERAMIC SMD CRYSTAL (8.0 x 4.5 x 1.5mm)

**FEATURES:**

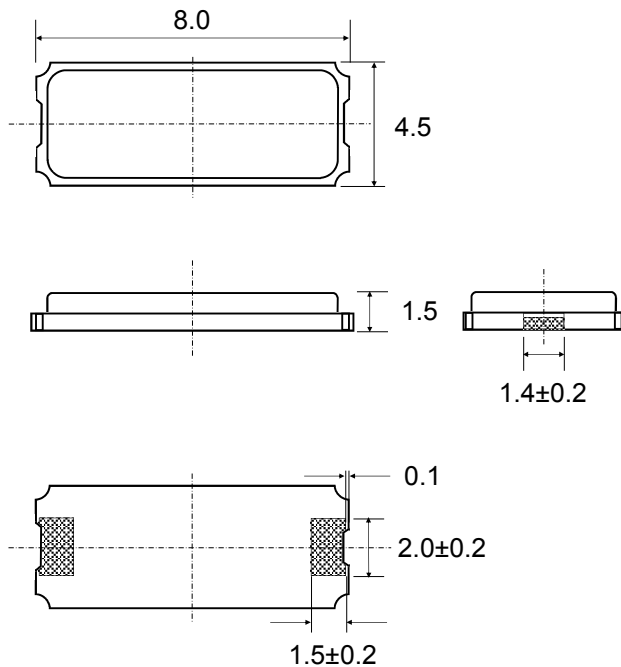
- HIGH FREQUENCY RANGE
- LOW COST / LOW PROFILE
- INDUSTRY STANDARD PACKAGE



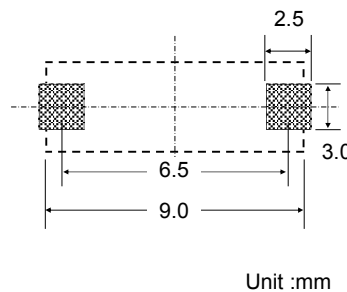
**■ SPECIFICATION**

<b>FREQUENCY RANGE</b>	8.000MHz ~ 80.000MHz
<b>FREQUENCY TOLERANCE @ 25°C</b>	±10ppm ~ ±50ppm (See P/N guide for other options)
<b>FREQUENCY STABILITY</b>	±10ppm ~ ±50ppm (See P/N guide for other options)
<b>OPERATING TEMPERATURE RANGE</b>	-40°C ~ 85°C (See P/N guide for other options)
<b>STORAGE TEMPERATURE RANGE</b>	-55°C ~ 125°C
<b>LOAD CAPACITANCE</b>	STD: 18pF (See P/N guide for other options)
<b>SHUNT CAPACITANCE</b>	5.0pF max.
<b>DRIVE LEVEL</b>	300µW max.
<b>AGING @ 25°C</b>	±3.0ppm / 1 <sup>st</sup> year max.
<b>EQUIVALENT SERIES RESISTANCE</b>	<b>Fundamental:</b> 8.000MHz ~ 10.000MHz: 70Ω max. <b>Fundamental:</b> 10.000MHz ~ 40.000MHz: 40Ω max. <b>3<sup>rd</sup> overtone:</b> 30.000MHz ~ 45.000MHz: 60Ω max. <b>3<sup>rd</sup> overtone:</b> 45.000MHz ~ 80.000MHz: 50Ω max.
<b>OPERATION MODE</b>	AT cut / Fundamental or 3 <sup>rd</sup> overtone

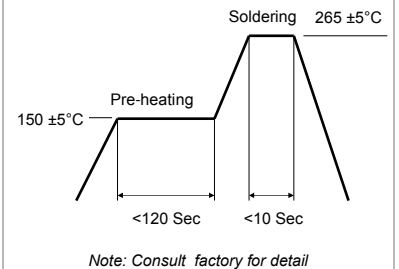
**■ PACKAGE DIMENSIONS**



**■ SOLDER PATTERN**



**■ REFLOW PROFILE**



**■ PART NUMBERING GUIDE**

CS84 - F - 00 - 00 - HM - 08 - 20.000M - TR

<b>Mode</b> F: Fundamental T: 3 <sup>rd</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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