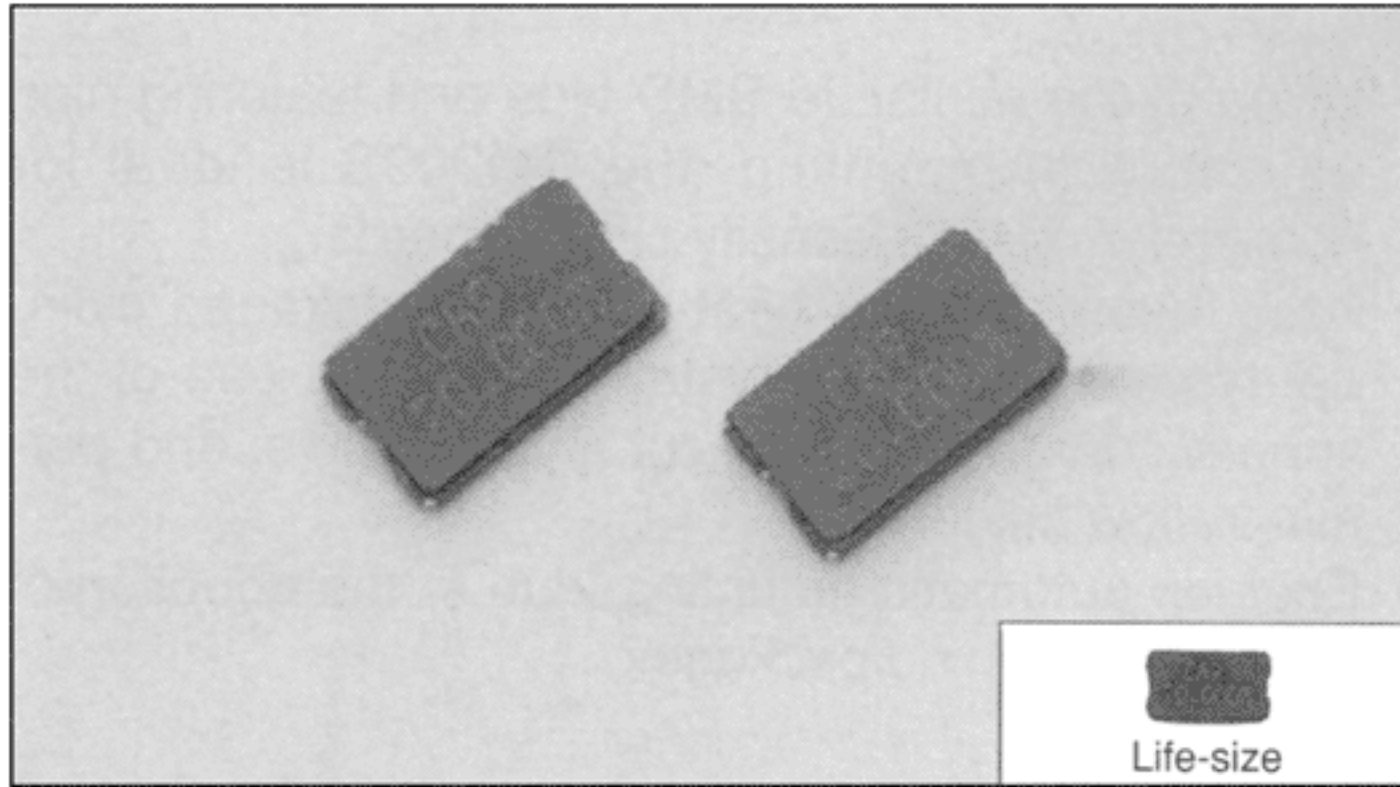


MHz RANGE CRYSTAL UNITS (CERAMIC SURFACE MOUNT TYPE)

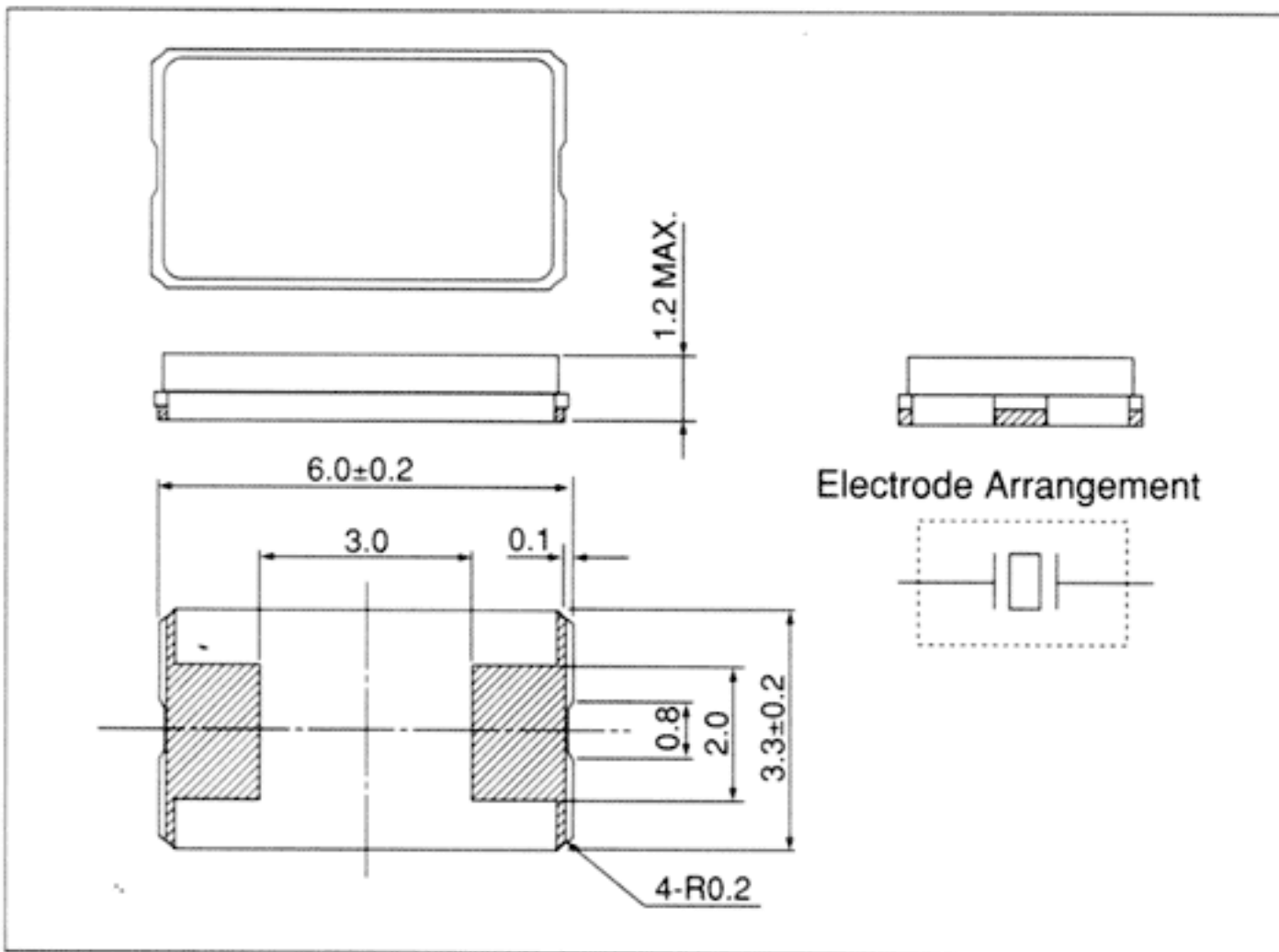
CITIZEN[®]

CS10

(2,000pcs/reel)



■ DIMENSIONS: (UNIT=mm)



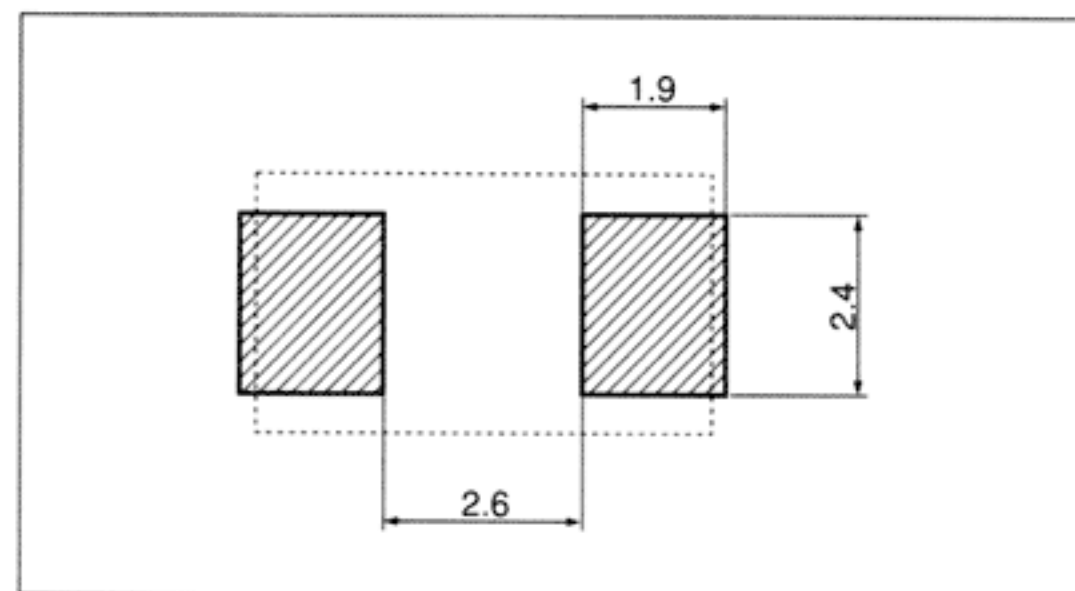
■ FEATURES:

- Being of the small and slim size SMD type and featuring high efficiency in mounting, the CS 10 is ideal for application to high-density circuit boards.
- Excellent environmental and heat-resisting characteristics have been gained, due to the use of the highly reliable ceramic package.
- Enables automatic mounting, due to the adoption of the emboss taping packaging.

■ APPLICATIONS:

- Can be used for a wide range of applications including use in communication equipment, AV equipment, OA equipment and measuring instruments as well as high density, cellular phone designs.

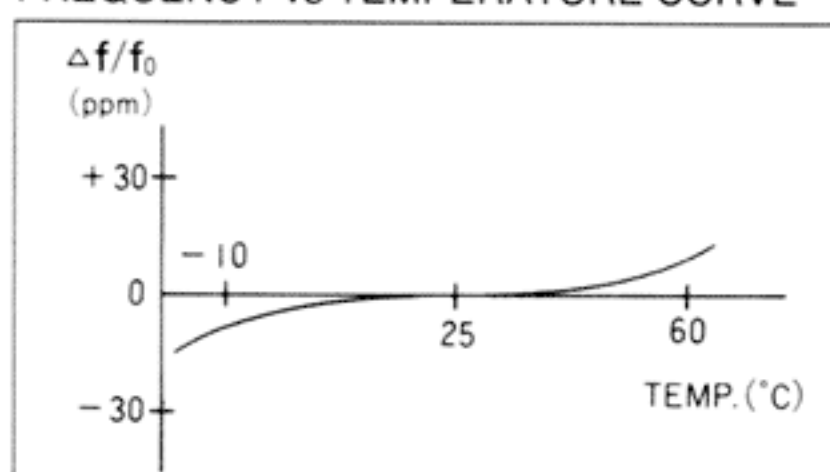
■ RECOMMENDED SOLDERING PATTERN: (UNIT=mm)



■ STANDARD SPECIFICATIONS

Item	Model	CS10	Conditions
Nominal frequency	f_0	12.5MHz ~ 50.0MHz (Fund)	Please contact us for changes in frequency.
Frequency tolerance	$\Delta f/f_0$	±30ppm or ±50ppm	At 25°C
Frequency vs. Temperature characteristics	$\Delta f/f_0$	±50ppm (±30ppm)	-10°C~+60°C
Operating temperature range	T_{ORP}	-40°C~+85°C	
Storage temperature range	T_{STG}	-55°C~+125°C	
Equivalent series resistance	R_1	50Ω MAX	At 25°C
Load capacitance	C_L	16.0pF TYP.	Please specify
Shunt capacitance	C_0	7.0pF MAX.	
Drive level	DL	50μW	
Insulation resistance	IR	500MΩ MIN.	DC 100 ±15V
Aging (First year)	$\Delta f/f_0$	±5ppm MAX.	25°C±3°C
Sealing		$1 \times 10^{-2} \mu\text{Pa}\cdot\text{m}^3/\text{s}$ MAX.	
Shock resistance		±5ppm MAX. Drop test of 3 times on a hard board from 75cm height or shock test of 3000G x 0.3ms x 1/2 sin wave x 3 directions	Conditions will vary depending on the frequency.

FREQUENCY vs TEMPERATURE CURVE



EQUIVALENT SERIES RESISTANCE (ESR, R_1)

Frequency	Equivalent series resistance
12.0MHz ≤ f_0 < 14.0MHz	70
14.0MHz ≤ f_0 ≤ 50.0MHz	50

(Ω MAX.)