CMR310T/CMR309T

FEATURES:

- The units are high-performance, miniature crystal units manufactured with Citizen's ultrahigh-precision processing technology.
- Ideal for low cost SMD applications.
- Provided in Tape and Reel.

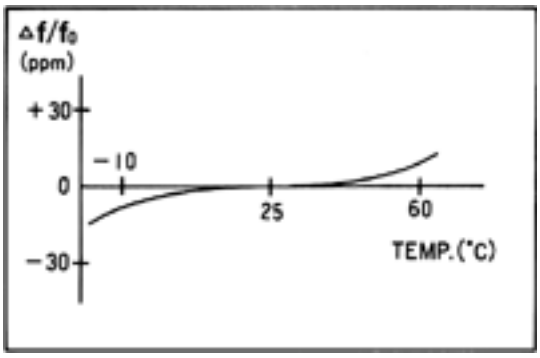
APPLICATIONS:

- Can be used for a wide range of applications including use in AV equipment, OA equipment, communication equipment and measuring instruments.

STANDARD SPECIFICATIONS

Item		CMR310T	CMR309T	Conditions
Nominal frequency	f_0	3.5MHz to 4.000MHz	4.001MHz to 32MHz (fund) 30MHz to 70MHz (3rd OT)	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 to +60°C
Operating temperature range	T_{opr}	-40°C to + 85°C		
Storage temperature range	T_{stg}	-55°C to +125°C		
Equivalent series resistance	R_1	See drawing		At 25°C
Load capacitance	C_L	16.0pF TYP.		Please specify
Shunt capacitance	C_0	5.0pF MAX.		
Drive level	DL	50 µW to 100µW		
Insulation resistance	IR	500M ohm MIN.		DC100V ± 15V
Aging (First year)	delta f/f_0	± 5ppm MAX.		25°C ± 3°C
Sealing		1 x 10-2 µ Pa·m3 /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 1/2sin wave x 3 directions			Conditions will vary depending on the frequency.

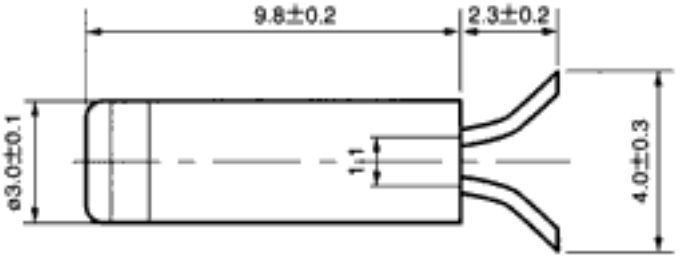
FREQUENCY vs TEMPERATURE CURVE



EQUIVALENTSERIES RESISTANCE (ESR, R1)(Ohm MAX.)

Frequency	Equivalent series resistance	Mode
3.5MHz <(=) f0 < 4MHz	200	Fundamental
4MHz <(=) f0 < 6MHz	150	
6MHz <(=) f0 < 10MHz	100	
10MHz <(=) f0 <(=) 32MHz	50	
30MHz < f0 < 36MHz	100	3rd OT
36MHz <(=) f0 < 70MHz	80	

DIMENSIONS: (UNIT=mm)



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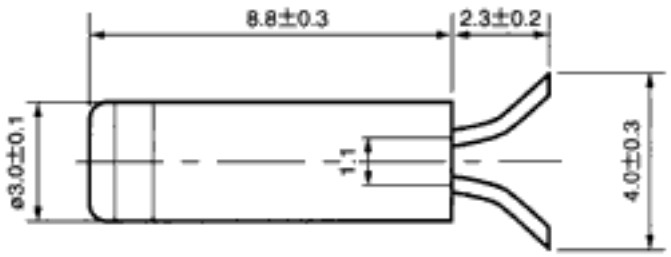

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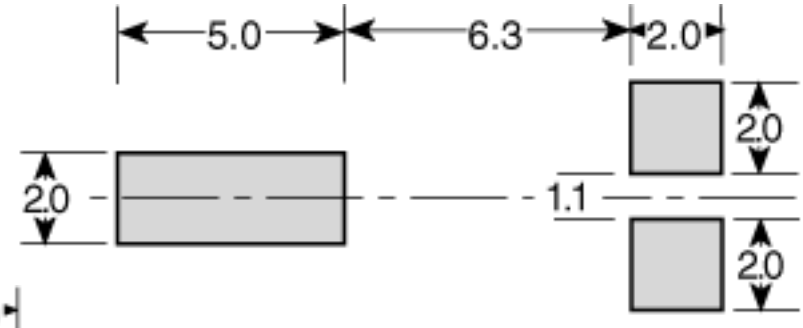
RECOMENDED SOLDERING PATTERN: (UNIT=mm)



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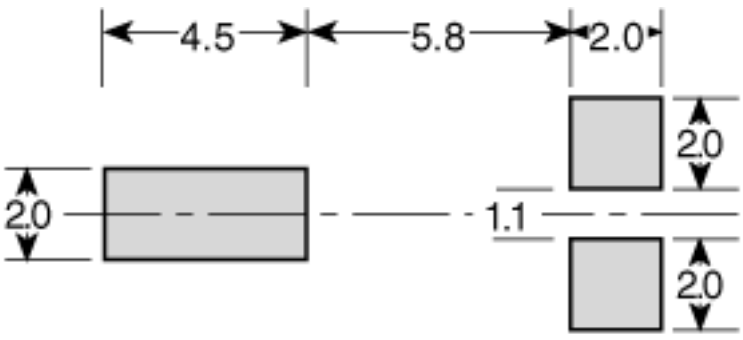

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