

# Surface Mount Quartz Crystals - Seiko Epson

## Low Frequency MC306 Series



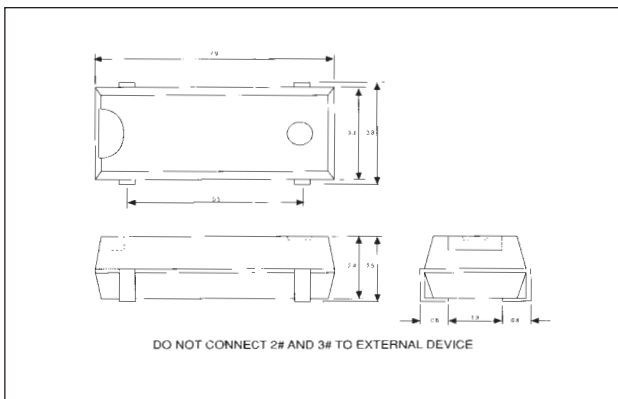
## Features

- Frequency range 20kHz-165kHz
- Photolithography finish allows uniform and stable performance
- Excellent shock resistance and environmental capability
- Ex-stock availability
- Suitable for automatic insertion
- Industrial operating temperature range as standard

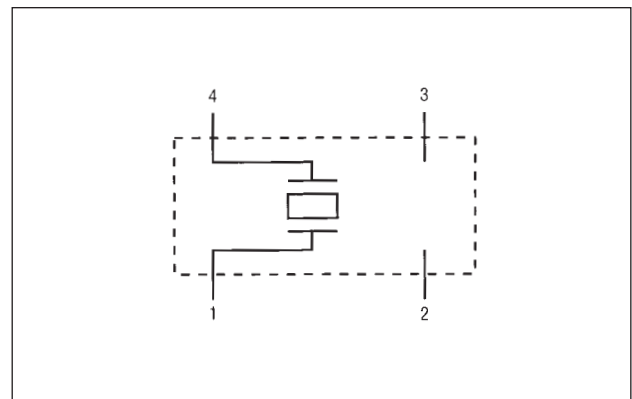
## Specifications

Item	Symbol	Specifications		Remarks
Nominal frequency	f	32.768kHz	20.000kHz to 165.000kHz	Not every frequency available
Temperature range:				
Storage temperature	T <sub>STG</sub>	-55°C to +125°C		
Operating temperature	T <sub>OPR</sub>	-40°C to +85°C		
Maximum drive level	GL	1.0μW MAX		
Soldering condition	T <sub>SOL</sub>	Two times at under 260°C within 10 sec or under 230°C within 3 min		
Frequency tolerance (standard)	Δf/f	±10ppm or ±20ppm or ±50ppm	±100ppm	Ta=25°C, DL = 1.0μW
Turnover temperature (frequency)	ØT	25°C ±5°C	25°C TYP	
Temperature coefficient (frequency)	a	-0.04ppm/°C <sup>2</sup> MAX		
Load capacitance	CL	3pF to ∞		Please specify
Series resistance	R <sub>1</sub>	50KΩ	50KΩ to 8KΩ	
Motional capacitance	C <sub>1</sub>	1.8fF	2.1fF to 0.6fF	
Shunt capacitance	C <sub>1</sub>	0.85pF TYP	1.0pF to 0.6pF	
Insulation resistance	IR	100MΩ MIN		
Aging	fa	±3ppm/year MAX	±5ppm/year MAX	Ta = 25°C ±3°C, first year
Shock resistance	S.R.	±5ppm MAX		Drop test of 3 times on a hard board from 75cm height or excitation test with 3000G x 3mS x 1/2 sine wave x 3 directions

## Dimensions (mm)



## Internal Connection



## ACT Stock Numbers

32.768kHz MC306 ±20ppm C<sub>1</sub> 12.5pF DG00003DZ  
 32.768kHz MC306 ±50ppm C<sub>1</sub> 12.5pF DG00003EC



TEL: +44 1635 528520 FAX: +44 1635 528443