

# Quartz Crystals

**M49G**

[ 12.4 \* 4.5 \* 4.0 mm ]

**ML49G**

[ 12.4 \* 4.5 \* 3.0 mm ]

Surface Mount Crystals

Fundamental

3rd Overtone

Min.

3.2 MHz

Max.

70 MHz

## Features

### Specifications

- Withstands solder reflow and available in EIA-481A tape and reel
- AT-strip crystal inside. Optimized for low spurious.
- Lowest cost among all Mercury SMD crystals



RoHS Compliance

## General Specifications

Item / Type	M49 ( 12.4 * 4.5 * 4.0mm ) series	ML49 ( 12.4 * 4.5 * 3.0mm ) series
Frequency Range & Crystal Cut	3.2.000 ~ 48.000 MHz , AT-cut , Fundamental Mode ( see Table 1 ) 27.000 ~ 70.000 MHz , AT-cut , 3rd overtone ( see Table 1 )	
Load Capacitance	Series or Parallel ( 8 to 32 pF ) resonance	
Drive Level	100μ W typical ( 500μ W max. )	
Frequency Tolerance	± 10 ppm , ± 20 ppm or ± 30 ppm ( max. ) at 25°C	
Frequency Stability	See Table 2	
Aging	ΔF / F : ±3 ppm / year ( max. )	
Storage Temperature Range	- 50°C to 105°C	

Table 1

ESR ( Equivalent Series Resistance )					
Freq.(MHz)	E.S.R.	Osc. Mode	Freq.(MHz)	E.S.R.	Osc. Mode
3.2 ~ 3.4	300 Ω	AT , Fund.	27.0 ~ 30.0	150 Ω	AT , 3rd
3.5 ~ 6.0	120 Ω		30.1 ~ 50.0	100 Ω	
6.1 ~ 10.0	60 Ω		50.1 ~ 70.0	80 Ω	
10.1 ~ 30.0	40 Ω				

Table 2

Frequency stability Vs Operating temperature range						
Stability code	Temp. (°C) \ ppm	± 10	± 15	± 20	± 25	± 30
X	-10 to 60°C	○	○	○	○	○
Y	-20 to 70°C	▲	○	○	○	○
I	-40 to 85°C		○	○	○	○

○ : available ; ▲ : contact Mercury

## Outline Dimensions ( Unit : mm )

