



RoHS Compliance



■ Features

- Lowest cost among all Mercury SMD crystals
- High frequency fundamental mode is available in BT-cut
- Withstand solder reflow and available in EIA-481A tape and reel
- AT-strip crystal inside. Optimized for low spurious.

General Specifications

Item / Type	M49 (12.4 * 4.5 * 4.0mm) , 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)
	24.000 ~ 48.000 MHz , BT-cut , Fundamental Mode (see Table 1)
Load Capacitance	Series Resonance or Parallel (8 to 32 pF typical)
Drive Level	100μ W (500μ W max.)
Frequency Tolerance	± 5 ppm , ± 10 ppm , ± 20 ppm or ± 30 ppm 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
Series Resistance (max.)

Freq.(MHz)	Osc. Mode	E.S.R.	Freq.(MHz)	Osc. Mode	E.S.R.
3.2 ~ 3.4	AT , Fund.	300 Ω	24.0~ 48.0	BT , Fund.	40 Ω
3.5 ~ 6.0	AT , Fund.	120 Ω	27.0~ 30.0	AT , 3rd	150 Ω
6.1~ 10.0	AT , Fund.	60 Ω	30.1~50.0	AT , 3rd	100 Ω
10.1~ 30.0	AT , Fund.	40 Ω	50.1~70.0	AT , 3rd	80 Ω

Table 2
Frequency stability Vs Operating temperature range

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)

