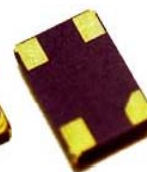


■ Features

- RoHS compliant and lead-free product
- Light weight and compact. Ideal for consumer portable devices
- The whole package is grounded via the topmetal lid and the two bottom pads .
- Frequency tolerance as tight as ± 5 ppm is available.



RoHS Compliance

General Specifications

Item / Type	MJ series (5.0 * 3.2 * 0.9 mm)
Frequency Range & Crystal Cut	10.000 ~ 50.000 MHz , AT-cut , Fundamental Mode (see Table 1)
	40.000 ~ 125.000 MHz , AT-cut , 3rd overtone (see Table 1)
	note: Frequencies between 40 and 50 MHz can be either AT fundamental or AT 3rd overtone. To avoid mistake, please add "AF" after the frequency on part number for AT-cut fundamental mode. "A3" for AT-cut 3rd overtone. For example: MJ-40.000AF-20P.
Load Capacitance	Series Resonance or Parallel (8 to 32 pF typical)
Drive Level	10 μ W (100 μ W max.)
Frequency Tolerance	± 5 ppm , ± 10 ppm , ± 20 ppm or ± 30 ppm at 25°C
Frequency Stability	See Table 2
Aging	$\Delta F / F : \pm 3$ ppm / year (max.)
Storage Temperature Range	- 50°C to 105°C

Table 1

Series Resistance (max.)

Frequency	Oscillator Mode	E. S. R.
10.000 ~ 50.000 MHz	AT-Cut , Fund. Mode	50 Ω max
40.000 ~ 125.000 MHz	AT-Cut , 3rd Overtone	80 Ω max

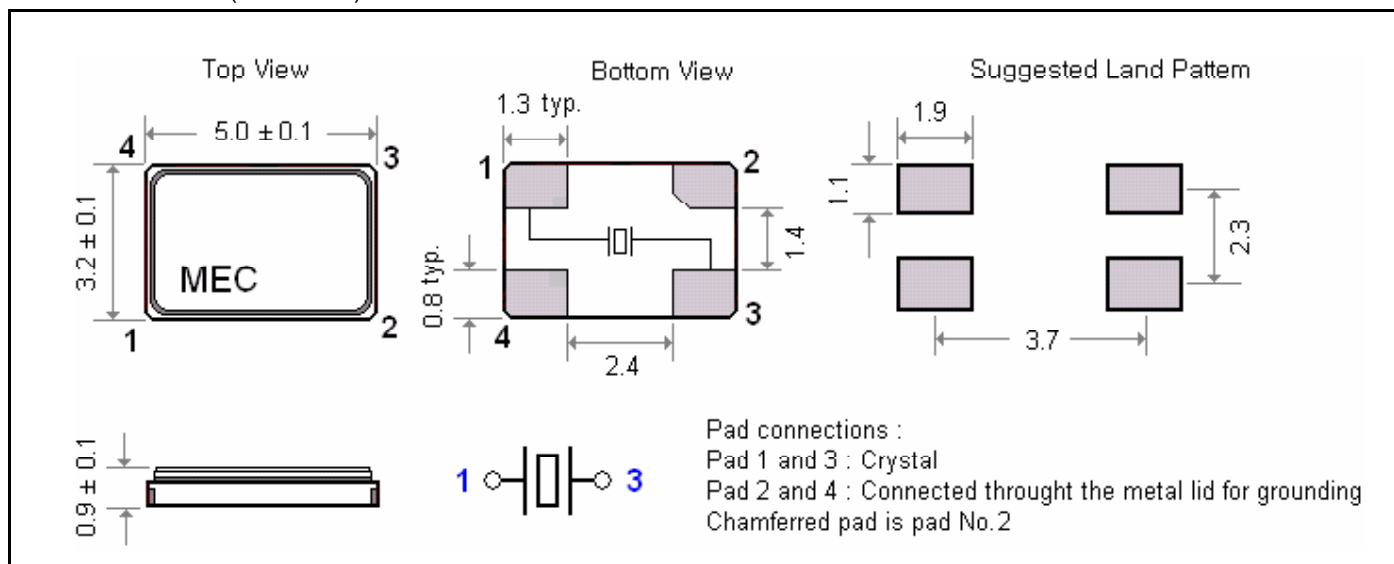
Table 2

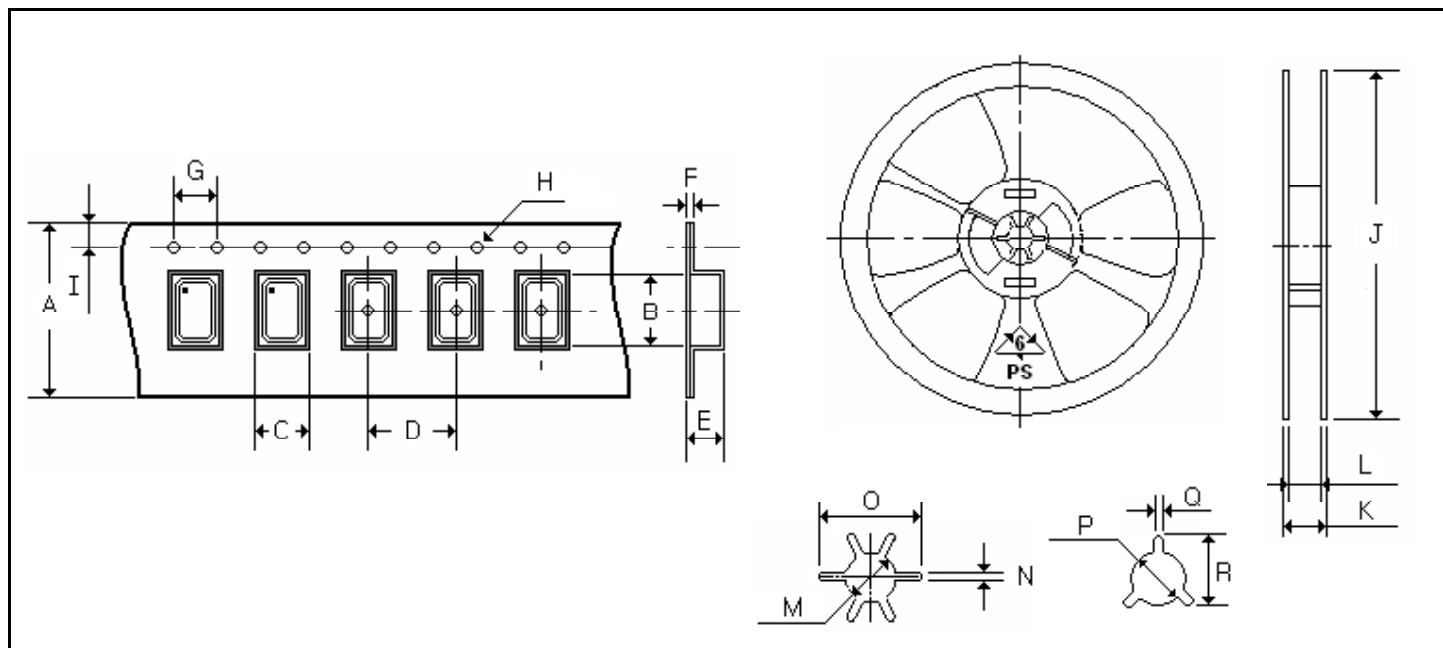
Frequency stability Vs Operating temperature range

Temp. (°C) \ ppm		± 5	± 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)





● Carrier Type Dimensions (unit : mm)

	A	B	C	D	E	F	G	H	I
X22	8.0	2.7	2.3	4.0	1.2	0.3	4.0	Ø1.5	1.7
X32	12.0	3.3	2.7	3.7	1.4	0.3	4.0	Ø1.5	1.7
X42	12.0	4.3	2.7	7.8	1.3	0.3	4.0	Ø1.5	1.7
MJ	16.0	5.4	3.6	7.8	1.6	0,32	4.0	Ø1.5	1.8
MF	16.0	6.3	3.8	7.9	2.0	0.4	4.1	Ø1.48	1.7
MQ	16.0	8.0	5.5	8.1	2.0	0.3	4.1	Ø1.41	1.8
M49	24.0	13.7	5.6	8.0	4.5	0.4	4.1	Ø1.40	1.8
ML49	24.0	13.9	5.6	7.8	3.7	0.4	4.1	Ø1.41	1.7
MP4	24.0	13.1	5.6	7.9	5.5	0.5	4.0	Ø1.46	1.7
MP5	24.0	13.1	5.6	7.9	5.5	0.5	4.0	Ø1.46	1.7

● Reel Dimensions (unit : mm)

	J	K	L	M	N	O	P	Q	R
X22	180.0	11.4	8.4	13.2	2.2	22.0	-	-	-
X32	180.0	18.4	12.4	13.2	2.2	22.0	-	-	-
X42	180.0	18.4	12.4	13.2	2.2	22.0	-	-	-
MJ	179.0	19.6	16.5	-	-	-	13.4	2.5	19.5
MF	179.0	19.6	16.5	-	-	-	13.4	2.5	19.5
MQ	179.0	19.6	16.5	-	-	-	13.4	2.5	19.5
M49	330.0	29.1	25.0	-	-	-	13.4	2.5	19.5
ML49	330.0	29.1	25.0	-	-	-	13.4	2.5	19.5
MP4	330.0	29.2	25.0	-	-	-	13.4	2.5	19.5
MP5	330.0	29.1	25.0	-	-	-	13.4	2.5	19.5