Tuning Fork Crystal

FEATURES

- Miniature package
- Low cost
- kHz frequency
- Tight tolerance
- Compliant to RoHS directive 2002/95/EC

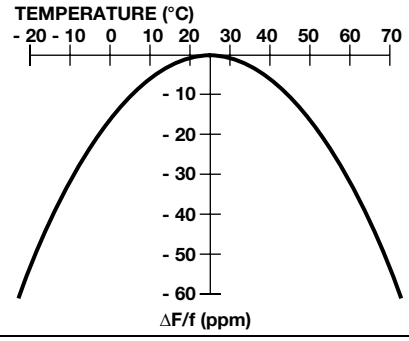
Pb-free
RoHS COMPLIANT

The tuning fork type quartz crystal provides ulitmate in size, performance and economic trade-offs. So it is used as a clock source in communication equipment, measuring instrument, microprocessor and other time managment applications.

STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Frequency range	F_O		kHz	-	32.768	-
Frequency tolerance	$\Delta F/F_O$	at 25 °C	ppm	-	± 20	-
Frequency coefficient	K	ref. to 25 °C	ppm/(Δ°C)^2	-	-	- 0.042
Operating temperature range	T_{OPR}		°C	- 10	-	+ 60
Storage temperature range	T_{STG}		°C	- 20	-	+ 70
Shunt capacitance	C_0		pF	-	0.85	2
Motional capacitance	C_1		fF	1	2	4
Load capacitance	C_L		pF	-	12.5	-
Insulation resistance	I_R	100 V_{DC}	MΩ	500	-	-
Drive level	D_L		µW	-	-	1
Aging (first year)	Fa	at 25 °C ± 3 °C	ppm	- 5	-	+ 5
Equation series resistance (ESR)	R_s		kΩ	-	-	50

PARABOLIC TEMPERATURE CURVE

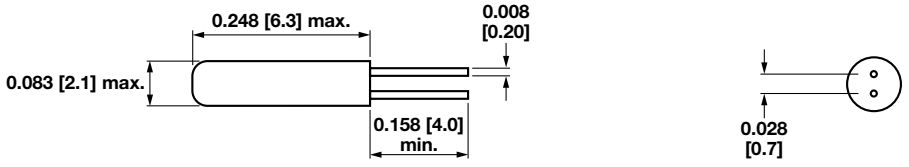


To determine frequency stability, use parabolic curvature (k).

For example: What is stability at 45 °C?

1. Change in temperature (°C) = 45 °C - 25 °C = 20 °C
2. Change in frequency = - 0.042 ppm x (Δ°C)
   = - 0.042 ppm x (20)^2
   = - 16.8 ppm (max.)

DIMENSIONS in inches [millimeters]



ORDERING INFORMATION

XT26T	32.768 kHz	e2
MODEL	FREQUENCY/kHz	JEDEC LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

X	T	2	6	T	T	A	3	2	K	7	6	8
MODEL					OPERATING TEMPERATURE	PACKAGE CODE	FREQUENCY					

GLOBAL PART NUMBERING

X	T	9	S	2	0	A	N	A	4	0	M

MODEL NUMBER	LOAD CAPACITANCE	PACKAGE CODE	OPTIONS	FREQUENCY
XT9S = XT49S XT9M = XT49M XTU1 = XTUM1	18 = 18 pF 20 = 20 pF NL = series to be specified by customer	**Tape and reel** G = RF5 (XT9S) H = RF7 (XT9M) **Bulk** A = B04 (all models)	NA = no additional options RR = extended temperature of - 40 °C to + 85 °C Contact factory for all other options	4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12.288 MHz M is used as decimal place holder in frequency

Example: XT49S-20 40M

X	T	3	6	2	0	A	1	2	M

MODEL NUMBER	LOAD CAPACITANCE	PACKAGE CODE	FREQUENCY
XT46 = XT46C XT36 = XT36C	18 = 18 pF 20 = 20 pF NL = series to be specified by customer	**Tape and reel** H = RF7 **Bulk** A = B04 (all models)	4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12.288 MHz M is used as decimal place holder in frequency

Example: XT36C-20 12M

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