

Miniature SMD Watch Crystal



FEATURES

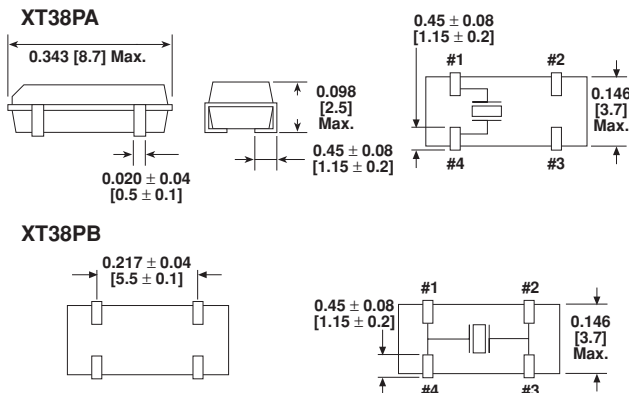
- 2.5mm height
- Industry standard footprint
- Long term stability
- Tape and reel, 3000pcs

The XT38P is a 2.5mm height plastic molded 32.768KHz SMD crystal unit. This thermoplastic molded rugged part is perfect for your SMD applications in limited circuit space using the watch frequency. We offer two different footprints of the part to satisfy various pattern layout requirements

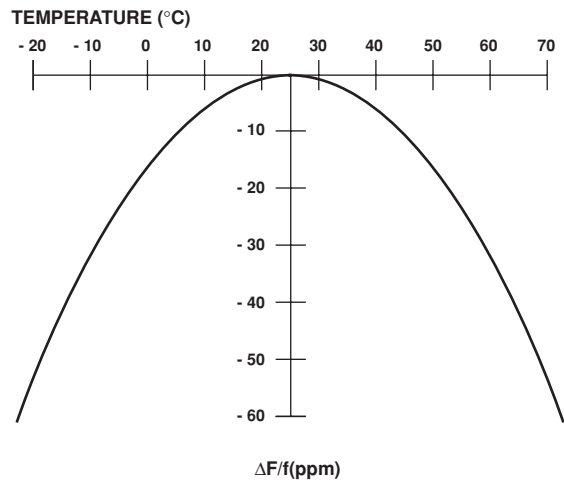
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	UNIT	MIN	TYPICAL	MAX
Frequency Range	F _O		KHz		32.768	
Frequency Tolerance	ΔF/F _O	at 25°C	ppm	- 20		+ 20
Frequency Coefficient	K	parabolic coefficient	ppm/°C ²	- 0.027	- 0.035	- 0.043
Operating Temperature Range	T _{OPR}		°C	- 40		+ 85
Storing Temperature Range	T _{STG}		°C	- 55		+ 125
Shunt Capacitance	C _O		pF		1.0	
Motional Capacitance	C ₁		fF		2.0	
Load Capacitance	CL		pF		12.5	
Insulation Resistance	IR		MΩ	500		
Drive Level	DL		μW			1.0
Aging (first year)	Fa	at 25°C ± 3°C	ppm		± 3.0	
Equivalent Series Resistance(ESR)	R _s		KΩ			50

DIMENSIONS in inches [millimeters]



PARABOLIC TEMPERATURE CURVE



ORDERING INFORMATION

XT38P	A	32.768KHz
MODEL	PAD LAYOUT A or B	FREQUENCY/KHz

To determine frequency stability, use parabolic curvature (k).
For example: What is stability at 45°C?

- 1) Change in Temperature (°C) = 45 - 25 = 20°C
- 2) Change in Frequency = - 0.042ppm*(Δ°C)
= - 0.042ppm*(20)²
= - 16.8ppm(max)