



## Surface Mount Watch Crystal



The XT32P is a cylinder type watch crystal molded in a thermoplastic housing capable of withstanding soldering re-flow processing. The XT32P is perfect for your SMD applications using the 32.768 KHz frequency. We offer two different footprints of the part to satisfy various pattern layout requirements.

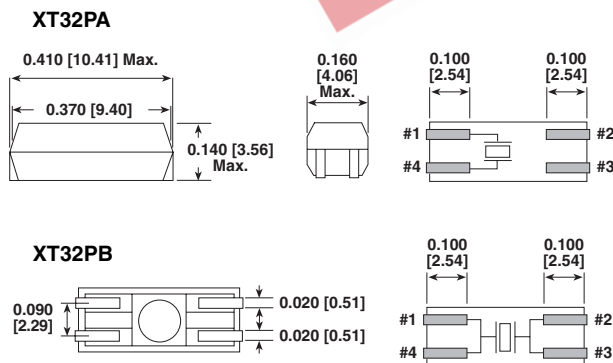
### FEATURES

- Low profile
- Industry standard footprint
- Long term stability
- Tape and reel, 2000pcs
- 100 % Lead (Pb)-free and RoHS compliant

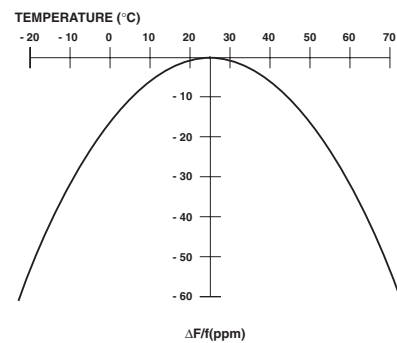


STANDARD ELECTRICAL SPECIFICATIONS						
PARAMETER	SYMBOL	CONDITION	UNIT	MIN	TYPICAL	MAX
Frequency Range	F <sub>O</sub>		KHz		32.768	
Frequency Tolerance	ΔF/F <sub>O</sub>	at 25 °C	ppm	-20		+20
Frequency Coefficient	K	parabolic coefficient	ppm/°C <sup>2</sup>	-0.027	-0.035	-0.043
Operating Temperature Range	T <sub>OPR</sub>		°C	-40		+85
Storing Temperature Range	T <sub>STG</sub>		°C	-55		+125
Shunt Capacitance	C <sub>O</sub>		pF		1.0	
Motional Capacitance	C <sub>1</sub>		fF		2.0	4
Load Capacitance	CL		pF		12.5	
Insulation Resistance	IR		MΩ	500		
Drive Level	DL		μW			1.0
Aging (first year)	F <sub>a</sub>	at 25 °C ± 3 °C	ppm		±3.0	
Equivalent Series Resistance(ESR)	R <sub>s</sub>		KΩ			50

### DIMENSIONS in inches [millimeters]



### 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 - 25 = 20 °C
- 2) Change in Frequency = - 0.042 ppm\*(Δ°C)  
= - 0.042 ppm\*(20)<sup>2</sup>  
= - 16.8 ppm(max)

### ORDERING INFORMATION

<b>XT32P</b> MODEL	<b>A</b> PAD LAYOUT A or B	<b>32.768 KHz</b> FREQUENCY /KHz	<b>e6</b> JEDEC Lead (Pb)- Free STANDARD
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### GLOBAL PART NUMBER

