XT38P

Vishay Dale

Miniature SMD Watch Crystal



The XT38P is a 2.5 mm height plastic molded 32.768 KHz SMD crystal unit. This thermoplastic molded rugged part is perfect for your SMD applications in limited circuit space using the watch frequency.

FEATURES

- 2.5 mm height
- Industry standard footprint
- Long term stability
- Tape and reel, 3000 pcs
- 100 % Lead (Pb)-free and RoHS compliant

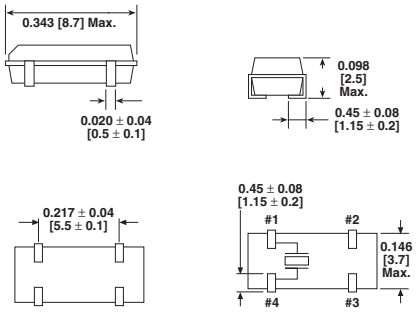
Pb-free
RoHS COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

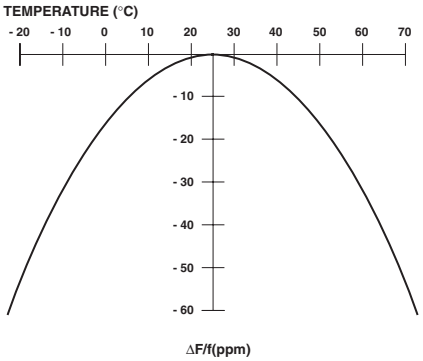
PARAMETER	SYMBOL	CONDITION	UNIT	MIN	TYPICAL	MAX
Frequency Range	F_O		KHz		32.768	
Frequency Tolerance	$\Delta F/F_O$	at 25 °C	ppm	-20		+20
Frequency Coefficient	K	parabolic coefficient	ppm/°C^2	-0.027	-0.035	-0.043
Operating Temperature Range	T_{OPR}		°C	-40		+85
Storing Temperature Range	T_{STG}		°C	-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)	Rs		KΩ			50

DIMENSIONS in inches [millimeters]

XT38PA



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)^2

= - 16.8 ppm(max)

ORDERING INFORMATION

XT38P	A	32.768 KHz	e6
MODEL	PAD LAYOUT	FREQUENCY/KHz	JEDEC Lead (Pb)-Free STANDARD

GLOBAL PART NUMBER

X	T	3	8	P	A	A	3	2	K	7	6	8
MODEL					PAD LAYOUT	PACKAGE CODE	FREQUENCY					

For technical questions contact: frequency@vishay.com

Document Number: 35022
Revision: 17-Jun-05