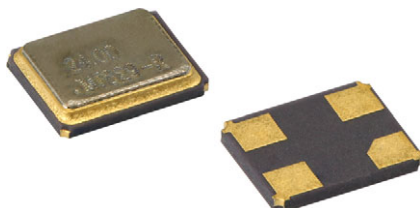


Quartz Crystals



The XT23 is a miniature SMD crystal with 3.2 x 2.5 (mm) ceramic package and a height of 0.8 mm. 8 MHz to 54 MHz frequency makes it widely applied in PDA, GPS, MP3, PCMCIA, bluetooth, and portable instruments.

FEATURES

- Ultra-miniature size: 3.2 x 2.5 x 0.8 (mm)
- Wide frequency range
- Seam sealing
- Emboss tapping
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

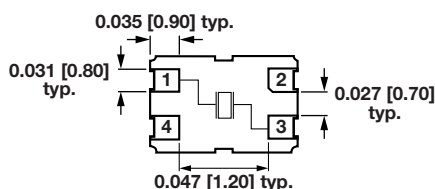
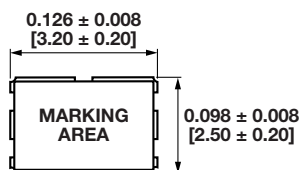
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Frequency range	F_0		MHz	8.0	-	54.0
Frequency tolerance	$\Delta F/F_0$	At 25 °C	ppm	-	$\pm 10, \pm 15, \pm 20, \pm 25, \pm 30$	-
Temperature stability	T_C	Ref. to 25 °C	ppm	-	$\pm 20, \pm 25, \pm 30, \pm 35, \pm 50, \pm 100$	-
Operating temperature range	T_{OPR}		°C	-10	-	+70
Storage temperature range	T_{STG}		°C	-55	-	+125
Shunt capacitance	C_0		pF	-	-	3
Load capacitance	C_L	Customer specified	pF	8	-	Series
Insulation resistance	I_R	100 V _{DC}	MΩ	500	-	-
Drive level	D_L		μW	10	100	300
Aging	F_a	At 25 °C, per year	ppm	-5	-	+5

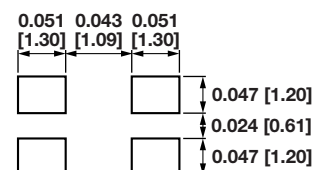
EQUIVALENT SERIES RESISTANCE (ESR) AND MODE OF VIBRATION (MODE)

FREQUENCY RANGE (MHz)	MAX. ESR (Ω)	MODE
8.000 to 11.999	400	Fundamental
12.000 to 12.999	100	Fundamental
13.000 to 19.999	80	Fundamental
20.000 to 29.999	70	Fundamental
30.000 to 54.000	50	Fundamental

DIMENSIONS in inches [millimeters]



Recommended Solder Pattern



Note
Pin #2 and pin #4 are connected through cover, in case connected to GND. Frequency might be drifted.



PART NUMBER CONFIGURATIONS (to be used on all New Designs)

X	T	2	3	1	0	H	J	R	G	X	8	M	1	9	2	E
Crystal		Package / Size		Load Cap.		Pack Code	Freq. Tolerance	Operating Temp.	Temp. Stability	Options	Frequency					Lead (PB)-free
		23		10 = std. SE = series		H = tape and reel	G = ± 30 ppm E = ± 25 ppm H = ± 20 ppm I = ± 15 ppm J = ± 10 ppm	S = -10 °C to +70 °C R = -40 °C to +85 °C	C = ± 100 ppm D = ± 50 ppm F = ± 35 ppm G = ± 30 ppm E = ± 25 ppm H = ± 20 ppm	X = no options Contact factory for available options	Use "M" as decimal place holder Frequency must be five digits - complete with "0" at the end					E = lead (Pb)-free

Previous / legacy part number information: still valid for existing designs;
all New Designs should use the new part configuration above



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