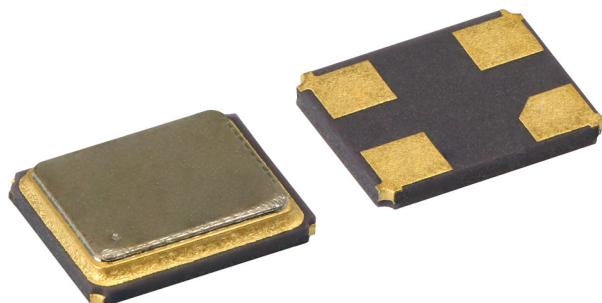


## Surface-Mount Crystal



### FEATURES

- Size: 2.0 x 1.6 x 0.55 (mm)
- Small package size
- Frequencies from 16 MHz to 60 MHz
- Tape and reel packaging
- Material categorization:  
for definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

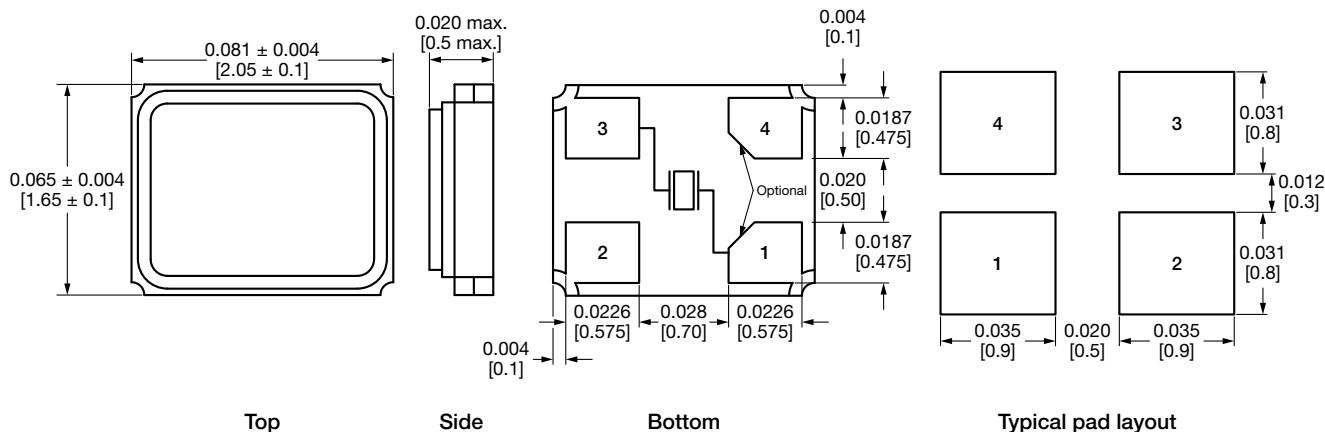
The XT12 series is an ultra miniature package crystal with dimensions 2.0 mm x 1.6 mm x 0.55 mm. It is primarily used in notebook, mobile communications, telecom devices, industrial controls, and consumer platforms.

### STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Frequency range	$F_O$		MHz	16	-	60
Frequency tolerance	$\Delta F/F_O$	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	$T_{OPR}$	Standard	°C	0	-	+70
		Optional	°C	-40	-	+85
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 <sub>DC</sub>	MΩ	500	-	-
Drive level	$D_L$		μW	-	10	200
Aging	$F_a$	At 25 °C, per year	ppm	-3	-	+3

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

FREQUENCY RANGE (MHz)	MAX. ESR (Ω)
16.000 to 19.999	200
20.000 to 23.999	100
24.000 to 60.000	60

**DIMENSIONS** in inches [millimeters]

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

X T		1 2	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
		12	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

**PART MARKING**

Line 1: V25.00 (frequency)

Line 2: YYWWA (date code / factory)



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