

Tuning Fork Crystal



FEATURES

- Miniature package
- Low cost
- kHz frequency
- Tight tolerance
- 100 % Lead (Pb)-free and RoHS compliant



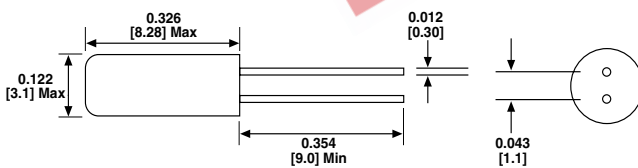
RoHS
COMPLIANT

The tuning fork type quartz crystal provides ultimate in size, performance and economic trade-offs. So it is used as a clock source in communication equipment, measuring instrument, microprocessor and other time management applications.

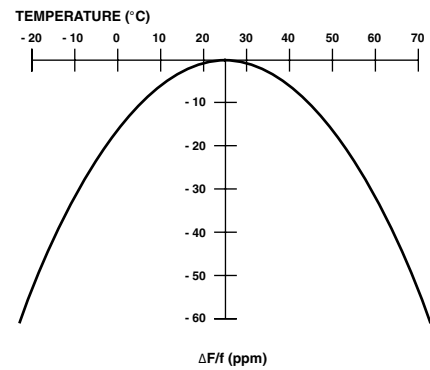
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	UNIT	MIN	TYPICAL	MAX
Frequency Range	F _O		kHz		32.768	
Frequency Tolerance	ΔF/F _O	at 25 °C	ppm		± 20	
Frequency Coefficient	K	ref to 25 °C	ppm/(Δ°C) ²			- 0.042
Operating Temperature Range	T _{OPR}		°C	- 10		+ 60
Storing Temperature Range	T _{STG}		°C	- 20		+ 70
Shunt Capacitance	C _O		pF		0.85	2
Motional Capacitance	C ₁		fF	1	2	4
Load Capacitance	CL		pF		12.5	
Insulation Resistance	IR	100 V _{DC}	MΩ	500		
Drive Level	DL		μW			1
Aging (first year)	F _a	at 25 °C ± 3 °C	ppm	- 5.0		+ 5.0
Equivalent Series Resistance(ESR)	R _s		KΩ			35

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)²
= - 16.8 ppm (max)

ORDERING INFORMATION

XT38T	32.768 kHz	e2
MODEL	FREQUENCY/kHz	JEDEC LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

X	T	3	8	T	T	A	3	2	K	7	6	8
MODEL						OPERATING TEMP. CODE	FREQUENCY					

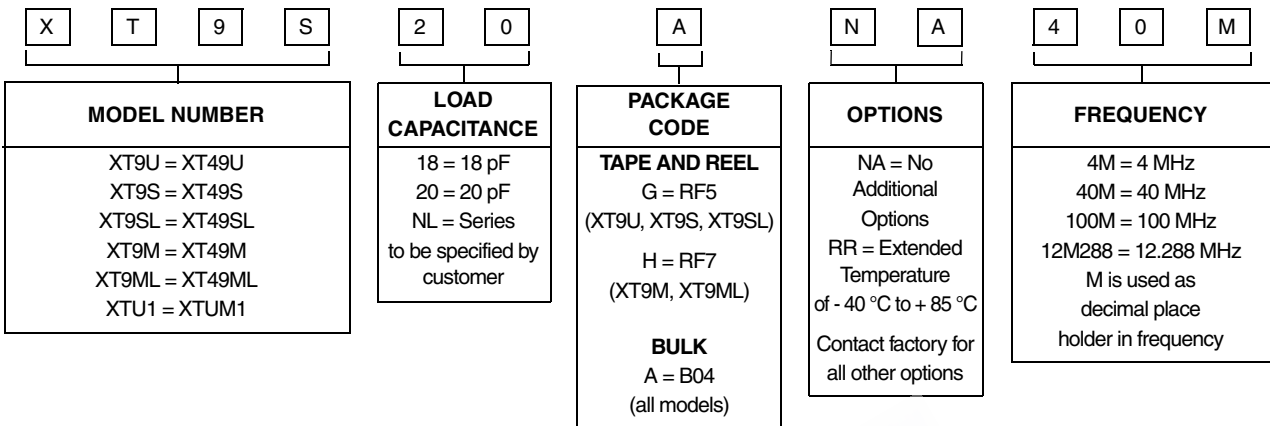
XT38T

Vishay Dale

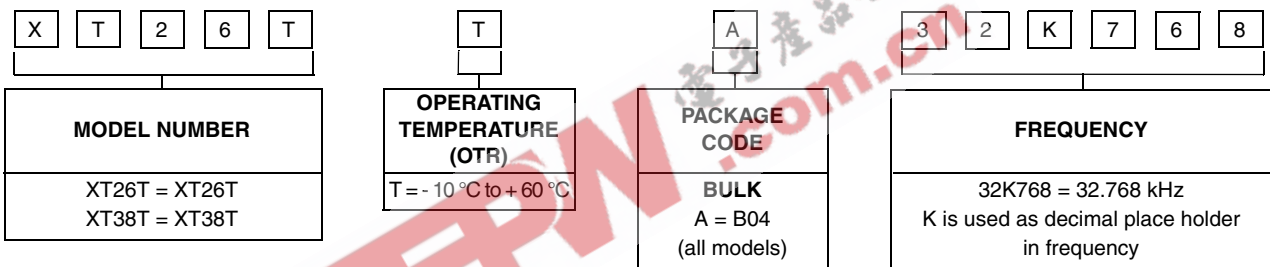
Tuning Fork Crystal



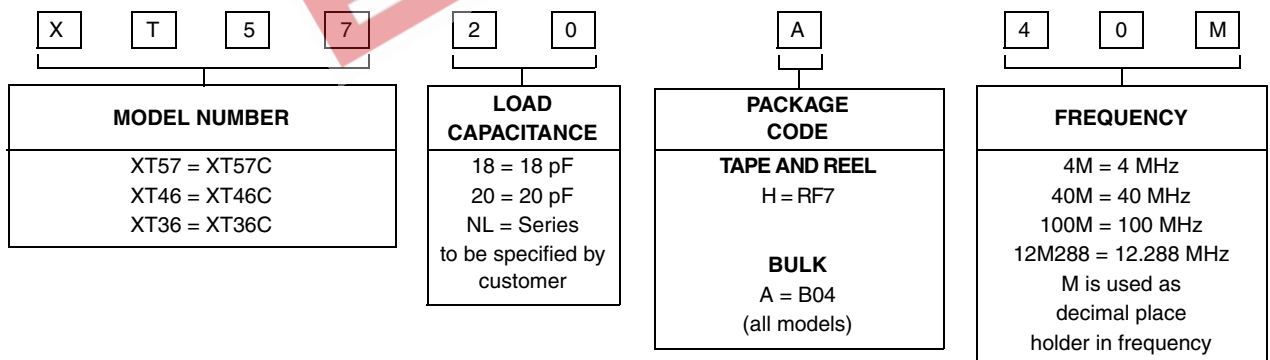
GLOBAL PART NUMBERING



Example: XT49S-20 40M



Example: XT26T 32.768K



Example: XT57C-20 40M



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

EEPW.com