



## **Low Profile Holder Type Crystal Units**



## **FEATURES**

- Low cost
- Industry standard
- Wide frequency range
- Excellent aging
- Compliant to RoHS directive 2002/95/EC

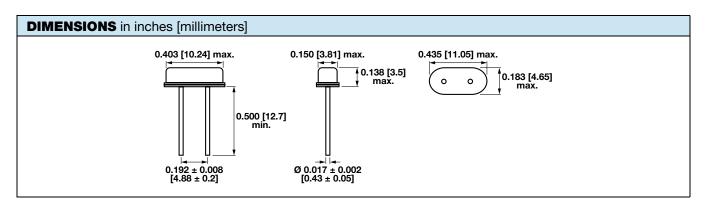


RoHS COMPLIAN

This part is a miniature AT cut strip crystal unit with a low profile package. It is with resistance weld.

STANDARD ELECTRICAL SPECIFICATIONS						
PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Frequency range	F <sub>O</sub>		MHz	3.579545	-	66.000
Frequency tolerance	ΔF/F <sub>O</sub>	at 25 °C	ppm	- 30	-	+ 30
Temperature stability	T <sub>C</sub>	ref. to 25 °C	ppm	- 50	-	+ 50
Operating temperature range	T <sub>OPR</sub>		°C	- 10	-	+ 70
Storage temperature range	T <sub>STG</sub>		°C	- 55	-	+ 125
Shunt capacitance	C <sub>0</sub>		pF	-	-	7
Load capacitance	C <sub>L</sub>	customer specified	pF	10	-	series
Insulation resistance	I <sub>R</sub>	100 V <sub>DC</sub>	ΜΩ	500	-	-
Drive level	D <sub>L</sub>		μW	-	100	500
Aging (first year)	Fa	at 25 °C, per year	ppm	- 5	-	+ 5

EQUIVALENT SERIES RESISTANCE (ESR) AND MODE OF VIBRATION (MODE)								
FREQUENCY RANGE (MHz)	MAX. ESR ( $\Omega$ )	MODE	FREQUENCY RANGE (MHz)	MAX. ESR ( $\Omega$ )	MODE			
3.579 to 3.999	200	fundamental/AT	10.000 to 13.999	80	fundamental/AT			
4.000 to 4.999	150	fundamental/AT	14.000 to 39.999	50	fundamental/AT			
5.000 to 5.999	120	fundamental/AT	40.000 to 66.000	80	3 <sup>rd</sup> overtone			
6.000 to 9.999	100	fundamental/AT						



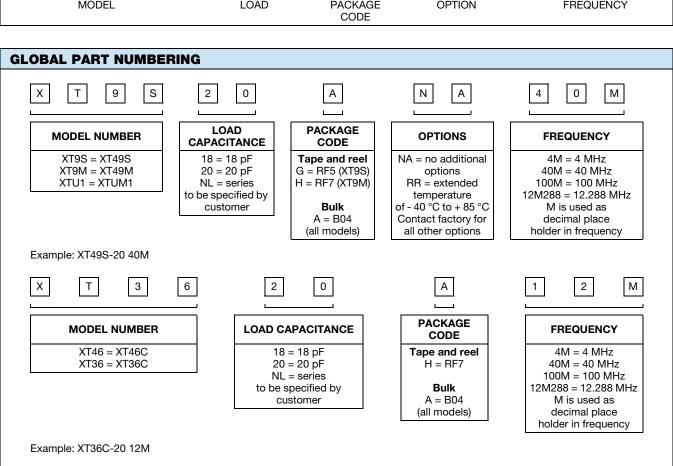
Vishay Dale

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	ORDERING INFORMATION							
ĺ	XT49S	R	-20	SP	12 <b>M</b>	e2		
	MODEL	OTR blank = standard R = - 40 °C to + 85 °C	LOAD blank = series -16 = 16 pF -20 = 20 pF standard -30 = 30 pF -32 = 32 pF	OPTIONS blank = standard SP = spacer SL = sleeve	FREQUENCY/MHz	JEDEC LEAD (Pb)-FREE STANDARD		

GLOBAL PART NUMBER				
X T 9 S  MODEL	2 0 LOAD	PACKAGE CODE	N A OPTION	1 2 M FREQUENCY



For technical questions, contact: <a href="mailto:frequency@vishay.com">frequency@vishay.com</a>





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