

Low Profile Holder Type Crystal Units



FEATURES

- Low cost
- Industry standard
- Wide frequency range
- Excellent aging
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

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

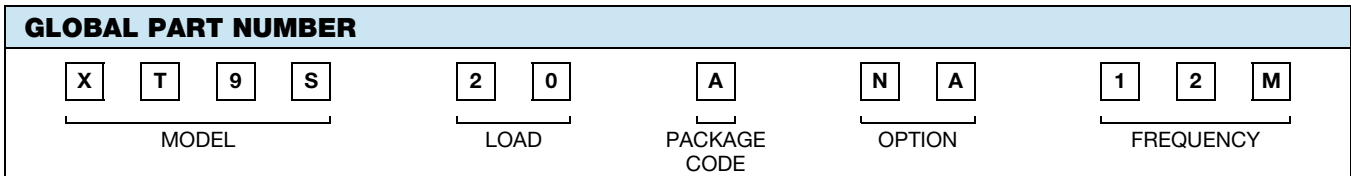
STANDARD ELECTRICAL SPECIFICATIONS						
PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Frequency range	F_O		MHz	3.579545	-	66.000
Frequency tolerance	$\Delta F/F_O$	at 25 °C	ppm	-30	-	+30
Temperature stability	T_C	ref. to 25 °C	ppm	-50	-	+50
Operating temperature range	T_{OPR}		°C	-10	-	+70
Storage temperature range	T_{STG}		°C	-55	-	+125
Shunt capacitance	C_0		pF	-	-	7
Load capacitance	C_L	customer specified	pF	10	-	series
Insulation resistance	I_R	100 V _{DC}	MΩ	500	-	-
Drive level	D_L		μW	-	100	500
Aging (first year)	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	FREQUENCY RANGE (MHz)	MAX. ESR (Ω)	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 rd overtone
6.000 to 9.999	100	fundamental/AT			

DIMENSIONS in inches [millimeters]	
<p>0.403 [10.24] max. 0.192 ± 0.008 [4.88 ± 0.2]</p>	<p>0.150 [3.81] max. 0.500 [12.7] min. Ø 0.017 ± 0.002 [0.43 ± 0.05]</p>
<p>0.435 [11.05] max. 0.183 [4.65] max.</p>	



ORDERING INFORMATION					
XT49S	R	-20	SP	12M	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 NUMBERING

X	T	9	S	2	0	A	N	A	4	0	M
MODEL NUMBER				LOAD CAPACITANCE		PACKAGE CODE	OPTIONS		FREQUENCY		
XT9S = XT49S XT9M = XT49M XTU1 = XTUM1				18 = 18 pF 20 = 20 pF NL = series to be specified by customer		Tape and reel H = RF7 (XT9M) Bulk A = B04 (all models)	NA = no additional options RR = extended temperature of -40 °C to +85 °C Contact factory for all other options		4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12.288 MHz M is used as decimal place holder in frequency		

Example: XT49S-20 40M

X	T	3	6	2	0	A	1	2	M	
MODEL NUMBER				LOAD CAPACITANCE		PACKAGE CODE	FREQUENCY			
XT46 = XT46C XT36 = XT36C				18 = 18 pF 20 = 20 pF NL = series to be specified by customer		Tape and reel H = RF7 Bulk A = B04 (all models)	4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12.288 MHz M is used as decimal place holder in frequency			

Example: XT36C-20 12M



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Vishay:

[XT9S20ANA9M216](#) [XT9S20ANA4M096](#) [XT9S20ANA12M288](#) [XT9S20ANA3M6864](#) [XT9SNLANA7M3728](#)
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[XT9SNLANA11M0592.](#) [XT49S-329.8304MHZ](#) [XT49S-2010MHZ](#) [XT9S20ANA11M0592](#) [XT9S20ANA30M](#)
[XT9S20ANA20M](#) [XT9S20ANA10M](#) [XT9SNLANA3M579545](#) [XT9S20ANA4M](#) [XT9SNLANA20M](#) [XT9SNLANA11M0592](#)
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