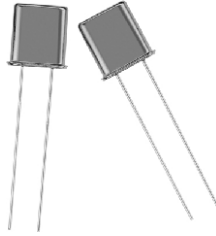


Resistance Welded Miniature Crystal Units



The XTUM-1 crystal unit is a miniature resistance welded package that provides excellent hermetic seal and frequency aging. The frequency range till 125 MHz and miniature size is ideal for communication equipment.

FEATURES

- Low cost
- Industry standard
- Small compact size
- Wide frequency range
- High stability
- “AT” cut crystal
- Compliant to RoHS directive 2002/95/EC


RoHS
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Frequency range	F_O		MHz	10.000	-	125.000
Frequency tolerance	$\Delta F/F_O$	at 25 °C	ppm	-	± 10	± 50
Temperature stability	T_C	see Frequency Stability vs. Temperature Range	ppm	-	± 10	± 50
Operating temperature range	T_{OPR}		°C	-	-	-
Storage temperature range	T_{STG}		°C	- 40	-	+ 85
Shunt capacitance	C_0		pF	-	-	7
Load capacitance	C_L	customer specified	pF	10	-	series
Insulation resistance	I_R	100 V _{DC}	M Ω	500	-	-
Drive level	D_L		μW	-	100	500
Aging	F_a	at 25 °C, per year	ppm	- 5	-	+ 5

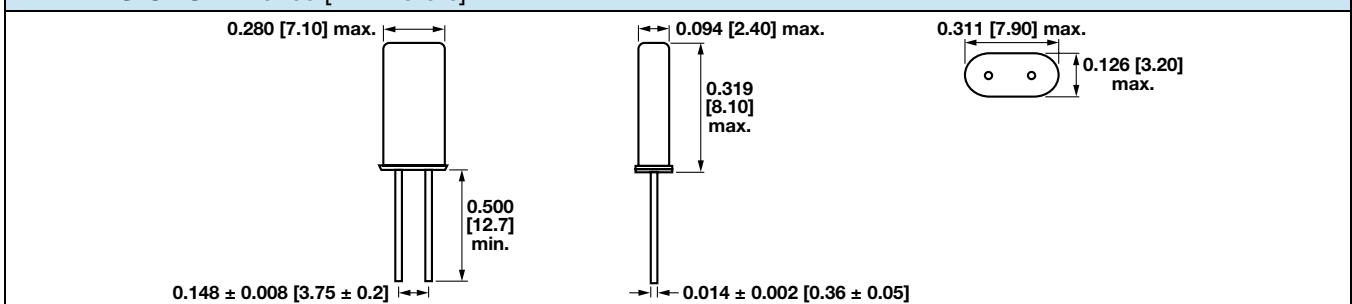
EQUIVALENT SERIES RESISTANCE (ESR) AND MODE OF VIBRATION (MODE)

FREQUENCY RANGE (MHz)	MAX. ESR (Ω)	MODE	FREQUENCY RANGE (MHz)	MAX. ESR (Ω)	MODE
10.000 to 12.999	60	fundamental	40.000 to 59.999	50	fundamental
13.000 to 19.999	40	fundamental	60.000 to 79.999	50	3 rd overtone
20.000 to 29.999	30	fundamental	80.000 to 125.000	100	5 th overtone
30.000 to 39.999	60	fundamental			

FREQUENCY STABILITY VS. TEMPERATURE RANGE (25 °C \pm 3 °C)

TEMPERATURE RANGE (°C)	FREQUENCY STABILITY (ppm)					
	± 5	± 10	± 15	± 20	± 30	± 50
0 to 50	x	x	x	x	x	x
- 10 to 60	x	x	x	x	x	x
- 20 to 70		x	x	x	x	x
- 40 to + 85				x	x	x

DIMENSIONS in inches [millimeters]



ORDERING INFORMATION

XTUM1 MODEL	-18 LOAD blank = series -32 = 32 pF -18 = 18 pF standard	20M FREQUENCY/MHz	e2 JEDEC LEAD (Pb)-FREE STANDARD
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GLOBAL PART NUMBER

X T U 1 MODEL	1 8 LOAD	A PACKAGE CODE	N A OPTION	2 0 M FREQUENCY
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GLOBAL PART NUMBERING

X T 9 S MODEL NUMBER XT9S = XT49S XT9M = XT49M XTU1 = XTUM1	2 0 LOAD CAPACITANCE 18 = 18 pF 20 = 20 pF NL = series to be specified by customer	A PACKAGE CODE Tape and reel G = RF5 (XT9S) H = RF7 (XT9M) Bulk A = B04 (all models)	N A OPTIONS NA = no additional options RR = extended temperature of -40 °C to +85 °C Contact factory for all other options	4 0 M FREQUENCY 4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12.288 MHz M is used as decimal place holder in frequency
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Example: XT49S-20 40M

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



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