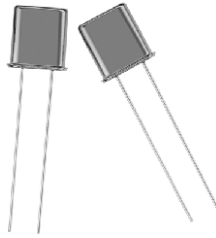


## Resistance Welded Miniature Crystal Units



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	-	$\pm 10$	$\pm 50$
Temperature stability	$T_C$	see Frequency Stability vs. Temperature Range	ppm	-	$\pm 10$	$\pm 50$
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 $V_{DC}$	$M\Omega$	500	-	-
Drive level	$D_L$		$\mu W$	-	100	500
Aging	$F_a$	at 25 °C, per year	ppm	- 5	-	+ 5

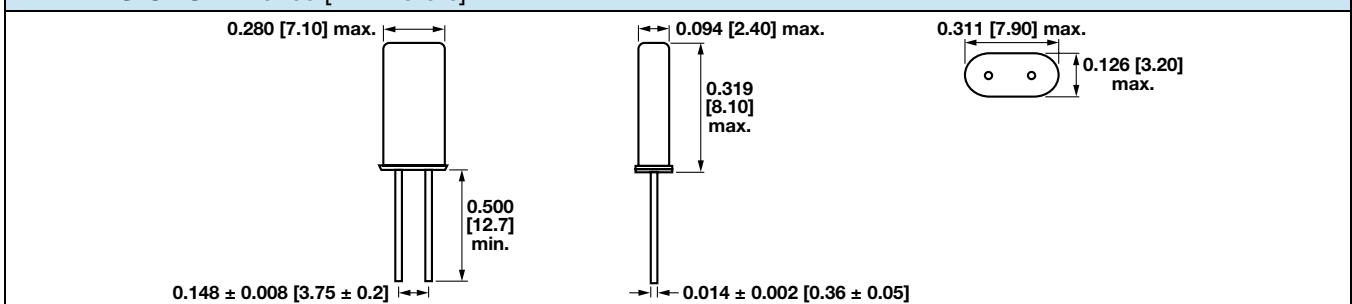
### EQUIVALENT SERIES RESISTANCE (ESR) AND MODE OF VIBRATION (MODE)

FREQUENCY RANGE (MHz)	MAX. ESR ( $\Omega$ )	MODE	FREQUENCY RANGE (MHz)	MAX. ESR ( $\Omega$ )	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 <sup>rd</sup> overtone
20.000 to 29.999	30	fundamental	80.000 to 125.000	100	5 <sup>th</sup> overtone
30.000 to 39.999	60	fundamental			

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

TEMPERATURE RANGE (°C)	FREQUENCY STABILITY (ppm)					
	$\pm 5$	$\pm 10$	$\pm 15$	$\pm 20$	$\pm 30$	$\pm 50$
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

<b>XTUM1</b> MODEL	<b>-18</b> LOAD blank = series -32 = 32 pF -18 = 18 pF standard	<b>20M</b> FREQUENCY/MHz	<b>e2</b> 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 <b>Tape and reel</b> G = RF5 (XT9S) H = RF7 (XT9M) <b>Bulk</b> 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 <b>Tape and reel</b> H = RF7 <b>Bulk</b> 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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