

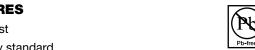


# **Low Profile SMD Type Crystal Units**



#### **FEATURES**

- Low cost
- · Industry standard
- Wide frequency range
- · Excellent aging
- Surface-mount
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>



RoHS

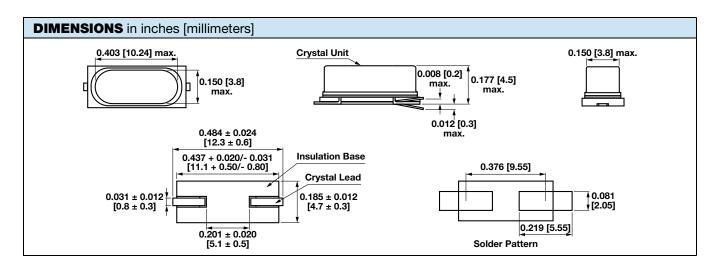
#### Note

Not compatible with vapor phase reflow mounting

This part is a miniature AT cut strip crystal unit packaged for surface mounting.

STANDARD ELECTRICAL SPECIFICATIONS								
PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.		
Frequency range	Fo		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	CL	Customer specified	pF	10	-	Series		
Insulation resistance	I <sub>R</sub>	100 V <sub>DC</sub>	ΜΩ	500	-	-		
Drive level	$D_L$		μW	=	100	500		
Aging	Fa	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 ( $\Omega$ )	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 66.999	80	3 <sup>rd</sup> overtone				
6.000 to 9.999	100	Fundamental/AT							







Vishay Dale



XT49M R -20 20M e2

MODEL OTR LOAD FREQUENCY/MHz JEDEC® LEAD (Pb)-FREE

blank = standard blank = series STANDARD

R = -40 °C to +85 °C -20 = 20 pF

-30 = 30 pF -32 = 32 pF

#### **GLOBAL PART NUMBER**

X T 9 M 2 0 A N A 2 0 M

MODEL LOAD PACKAGE OPTION FREQUENCY

#### **GLOBAL PART NUMBERING**

X T 9 S 2 0 A N A 4 0 M

#### MODEL NUMBER

XT9S = XT49S XT9M = XT49M XTU1 = XTUM1

# LOAD CAPACITANCE

18 = 18 pF 20 = 20 pF NL = series to be specified by customer

#### PACKAGE CODE

Tape and reel G = RF5 (XT9S) H = RF7 (XT9M)

> Bulk A = B04 (all models)

#### **OPTIONS**

NA = no additional options RR = extended temperature of - 40 °C to + 85 °C Contact factory for all other options

#### **FREQUENCY**

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

#### MODEL NUMBER

XT46 = XT46C XT36 = XT36C

# 2 0

#### **LOAD CAPACITANCE**

18 = 18 pF 20 = 20 pF NL = series to be specified by customer

#### PACKAGE CODE

Tape and reel H = RF7

Bulk A = B04 (all models)

## FREQUENCY

2

М

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

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