

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.

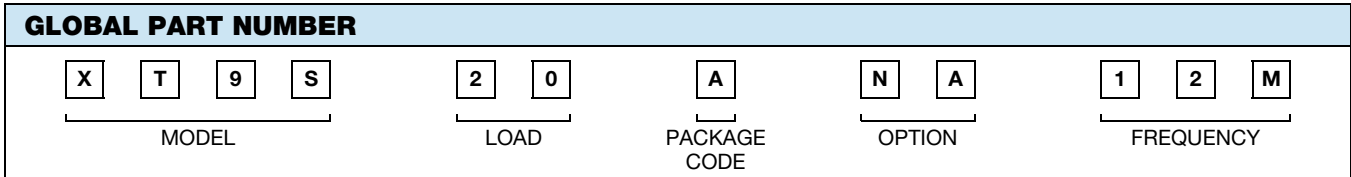
| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | |
|------------------------------------|----------------|---------------------|------|----------|------|--------|
| PARAMETER | SYMBOL | CONDITION | UNIT | MIN. | TYP. | MAX. |
| Frequency range | F_O | | MHz | 3.579545 | - | 66.000 |
| Frequency tolerance | $\Delta F/F_O$ | 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. 0.500 [12.7] min. 0.192 ± 0.008 [4.88 ± 0.2]</p> | <p>0.150 [3.81] max. 0.138 [3.5] max. 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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