

## Low Profile Holder Type Crystal Units



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

### FEATURES

- Low cost
- Industry standard
- Wide frequency range
- Excellent aging
- 100 % Lead (Pb)-free and RoHS compliant

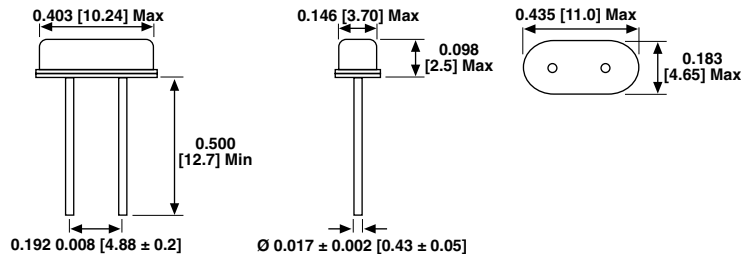


**RoHS**  
COMPLIANT

| STANDARD ELECTRICAL SPECIFICATIONS |                |                    |           |       |         |        |
|------------------------------------|----------------|--------------------|-----------|-------|---------|--------|
| PARAMETER                          | SYMBOL         | CONDITION          | UNIT      | MIN   | TYPICAL | MAX    |
| Frequency Range                    | $F_o$          |                    | MHz       | 3.200 |         | 66.000 |
| Frequency Tolerance                | $\Delta F/F_o$ | at 25 °C           | ppm       | ± 10  | ± 30    | ± 50   |
| Temperature Stability              | TC             | ref to 25 °C       | ppm       | ± 10  | ± 30    | ± 50   |
| Operating Temperature Range        | $T_{OPR}$      |                    | °C        | - 20  |         | + 70   |
| Storing Temperature Range          | $T_{STG}$      |                    | °C        | - 40  |         | + 85   |
| Shunt Capacitance                  | $C_o$          |                    | pF        |       |         | 7      |
| Load Capacitance                   | CL             | Customer Specified | pF        | 10    |         | Series |
| Insulator Resistance               | IR             | 100 $V_{DC}$       | $M\Omega$ | 500   |         |        |
| Drive Level                        | DL             |                    | $\mu W$   |       | 100     | 500    |
| Aging (first year)                 | Fa             | at 25 °C, per year | ppm       | - 5.0 |         | + 5.0  |

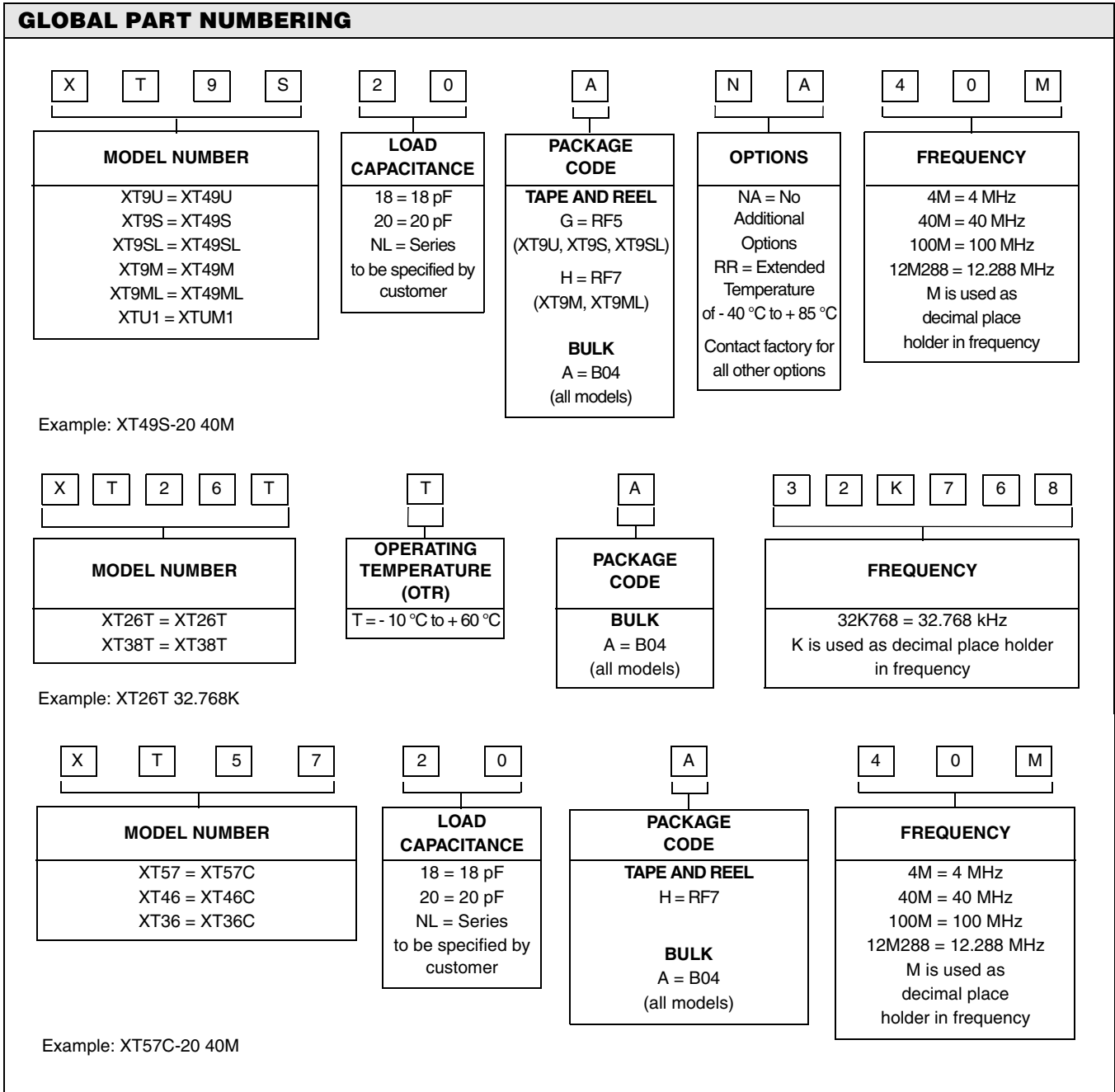
| EQUIVALENT SERIES RESISTANCE (ESR) AND MODE OF VIBRATION (MODE) |                      |                |                       |                      |                |
|---|----------------------|----------------|-----------------------|----------------------|----------------|
| FREQUENCY RANGE (MHz)   | MAX ESR ( $\Omega$ ) | MODE           | FREQUENCY RANGE (MHz) | MAX ESR ( $\Omega$ ) | MODE           |
| 3.200 to 4.499  | 150                  | Fundamental/AT | 9.000 to 9.999        | 60                   | Fundamental/AT |
| 4.500 to 5.999  | 120                  | Fundamental/AT | 10.000 to 12.999      | 50                   | Fundamental/AT |
| 6.000 to 6.999  | 100                  | Fundamental/AT | 13.000 to 30.000      | 40                   | Fundamental/AT |
| 7.000 to 7.999  | 90                   | Fundamental/AT | 30.000 to 66.000      | 80                   | 3rd Overtone   |
| 8.000 to 8.999  | 80                   | Fundamental/AT |                       |                      |                |

### DIMENSIONS in inches [millimeters]



| ORDERING INFORMATION |  |  |   |                       |  |  |
|----------------------|--|--|---|-----------------------|--|--|
| XT49SL<br>MODEL      | R<br>OTR<br>Blank = Standard<br>R = - 40 °C to + 85 °C | -20<br>LOAD<br>Blank = Series<br>- 16 = 16 pF<br>- 20 = 20 pF Standard<br>- 30 = 30 pF<br>- 32 = 32 pF | SP<br>OPTIONS<br>Blank = Standard<br>SP = Spacer<br>SL = Sleeve | 12 M<br>FREQUENCY/MHz | e2<br>JEDEC LEAD (Pb)-FREE<br>STANDARD |  |

| GLOBAL PART NUMBER |   |   |   |   |      |   |                 |         |   |           |   |   |  |  |  |
|--------------------|---|---|---|---|------|---|-----------------|---------|---|-----------|---|---|--|--|--|
| X                  | T | 9 | S | L | 2    | 0 | A               | N       | A | 1         | 2 | M |  |  |  |
| MODEL              |   |   |   |   | LOAD |   | PACKAGE<br>CODE | OPTIONS |   | FREQUENCY |   |   |  |  |  |





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