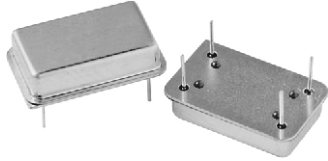


## Full Size Clock Oscillators TTL Compatible



The XO-53 series oscillator is TTL compatible and features fast rise/fall times with high reliability at low cost. The metal package with pin 7 case ground acts as shielding to minimize EMI radiation.

### FEATURES

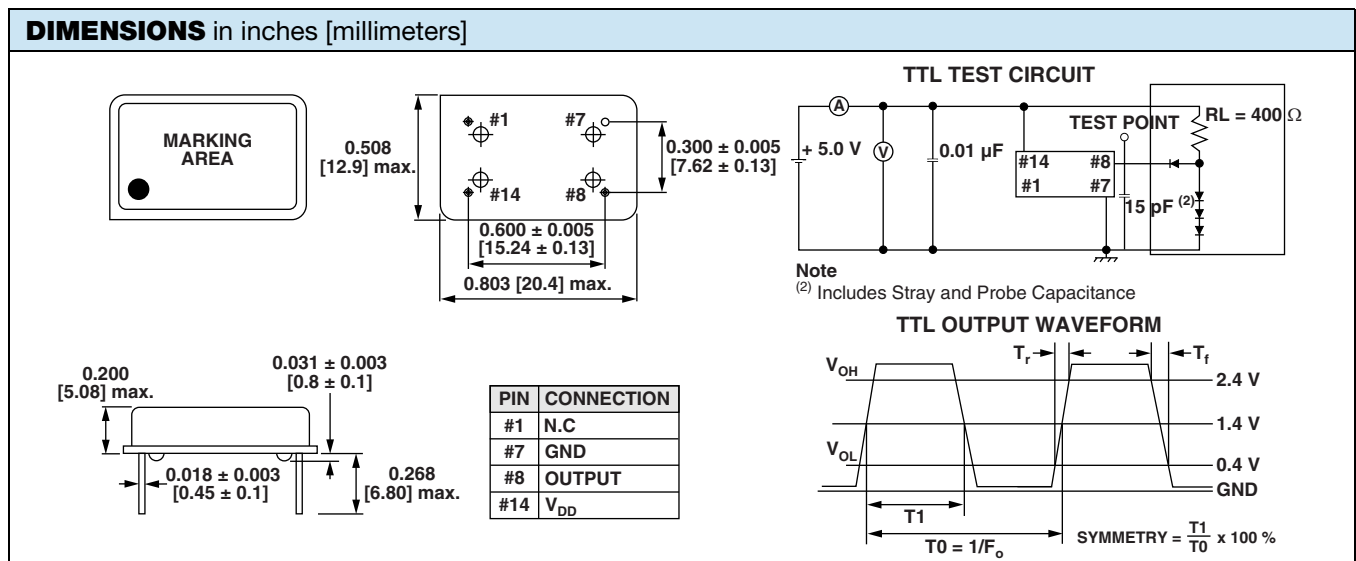
- 10 TTL output load
- Size: 14 pin full size
- Industry standard
- Wide frequency range
- Low cost
- Resistance weld package
- Compliant to RoHS Directive 2002/95/EC



| STANDARD ELECTRICAL SPECIFICATIONS |           |                           |   |
|------------------------------------|-----------|---------------------------|---|
| PARAMETER                          | SYMBOL    | CONDITION                 | VALUE                                     |
| Frequency range                    | $F_O$     | -                         | 1.0 MHz to 100.000 MHz                    |
| Frequency stability <sup>(1)</sup> |           | all conditions            | $\pm 25$ ppm, $\pm 50$ ppm, $\pm 100$ ppm |
| Operating temperature range        | $T_{OPR}$ | -                         | 0 °C to 70 °C                             |
|                                    |           |                           | - 40 °C to + 85 °C (option)               |
| Storage temperature range          | $T_{STG}$ | -                         | - 55 °C to + 125 °C                       |
| Power supply voltage               | $V_{DD}$  | -                         | 5.0 V $\pm$ 10 %                          |
| Aging (first year)                 |           | 25 °C $\pm$ 3 °C          | $\pm 5$ ppm                               |
| Supply current                     | $I_{DD}$  | 1.0 MHz to 23.999 MHz     | 15 mA max.                                |
|                                    |           | 24.000 MHz to 69.999 MHz  | 30 mA max.                                |
|                                    |           | 70.000 MHz to 100.000 MHz | 60 mA max.                                |
| Output symmetry                    | Sym       | at 1.4 V                  | 40 %/60 % (45 %/55 % option)              |
| Rise time                          | $t_r$     | 0.4 V to 2.4 V            | 5 ns max.                                 |
| Fall time                          | $t_f$     | 2.4 V to 0.4 V            | 5 ns max.                                 |
| Output voltage                     | $V_{OH}$  | -                         | 2.4 V min.                                |
|                                    | $V_{OL}$  | -                         | 0.4 V max.                                |
| Output load                        | TTL load  | -                         | 1 TTL to 10 TTL                           |
| Start-up time                      | $t_s$     | -                         | 10 ms max.                                |

### Note

<sup>(1)</sup> Include: 25 °C tolerance, operating temperature range, input voltage change, aging, load change, shock and vibration



## ORDERING INFORMATION

|              |   |  |               |                                  |
|--------------|---|--|---------------|----------------------------------|
| <b>XO-53</b> | <b>B</b>  | <b>R</b>   | <b>40M</b>    | <b>e2</b>                        |
| MODEL        | FREQUENCY STABILITY<br>AA = 0.0025 % (25 ppm)<br>A = 0.005 % (50 ppm)<br>B = 0.01 % (100 ppm)<br>standard | OTR<br>blank = 0 °C to + 70 °C<br>R = - 40 °C to + 85 °C | FREQUENCY/MHz | JEDEC LEAD (Pb)-FREE<br>standard |

## GLOBAL PART NUMBER

|          |          |          |          |                     |          |              |          |          |           |          |          |
|----------|----------|----------|----------|---------------------|----------|--------------|----------|----------|-----------|----------|----------|
| <b>X</b> | <b>O</b> | <b>5</b> | <b>3</b> | <b>C</b>            | <b>T</b> | <b>D</b>     | <b>N</b> | <b>A</b> | <b>4</b>  | <b>0</b> | <b>M</b> |
| MODEL    |          |          |          | FREQUENCY STABILITY | OTR      | PACKAGE CODE | OPTIONS  |          | FREQUENCY |          |          |

## GLOBAL PART NUMBERING

|   |   |   |          |   |  |  |   |          |          |          |          |          |
|---|---|---|----------|---|--|--|---|----------|----------|----------|----------|----------|
| <b>X</b>  | <b>O</b>  | <b>5</b>                                      | <b>2</b> | <b>C</b>                                  | <b>T</b>   | <b>E</b>   | <b>L</b>  | <b>N</b> | <b>A</b> | <b>4</b> | <b>0</b> | <b>M</b> |
| <b>MODEL NUMBER</b>   | <b>FREQUENCY STABILITY</b>  | <b>OPERATING TEMPERATURE (OTR)</b>            |          | <b>ENABLE/DISABLE</b>                     | <b>PACKAGE CODE</b>  | <b>OPTION</b>  | <b>FREQUENCY</b>  |          |          |          |          |          |
| XO53 = XO-53<br>XO54 = XO-54<br>XO34 = XO-543<br>XO52 = XO-52<br>XO32 = XO-523<br>XO5M = XOSM-52<br>XO63 = XOSM-533<br>XO62 = XOSM-532<br>XO61 = XOSM-531<br>XO57 = XOSM-57<br>XO37 = XOSM-573<br>XO27 = XOSM-572<br>XO17 = XOSM-571<br>XO55 = XOSM-55<br>XO35 = XOSM-553 | C = 0.01 % (100 ppm)<br>D = 0.005 % (50 ppm)<br>E = 0.0025 % (25 ppm) | T = 0 °C to + 70 °C<br>R = - 40 °C to + 85 °C |          | F = pin 1 open<br>E = disable to tristate | <b>Tape and reel</b><br>H = RF7<br><br><b>Bulk</b><br>A = B04 (XO63, XO62, XO61)<br>C = D06 (XO57, XO37, XO27, XO17)<br>D = D07 (XO53, XO54, XO34, XO55, XO35)<br>L = D08 (XO52, XO32, XO5M) | NA = no additional options<br>60 = 45/55 symmetry<br>Contact factory for all other options | 4M = 4 MHz<br>40M = 40 MHz<br>100M = 100 MHz<br>12M288 = 12.288 MHz<br><br>M is used as decimal place holder in frequency |          |          |          |          |          |
| Example: XO52CTELNA40M  |   |   |          |   |  |  |   |          |          |          |          |          |

## PART MARKING

|         |                            |
|---------|----------------------------|
| Line 1: | M2803XXXXX (part number)   |
| Line 2: | XX.XXXXM (frequency)       |
| Line 3: | yywwwv (date/factory code) |



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