

## Half Size Clock Oscillator Enable/Disable



The XO-52 series oscillator is half size, has tri-state enable/disable controlled function. The metal package with pin 4 case ground acts as shielding to minimize EMI radiation.

### FEATURES

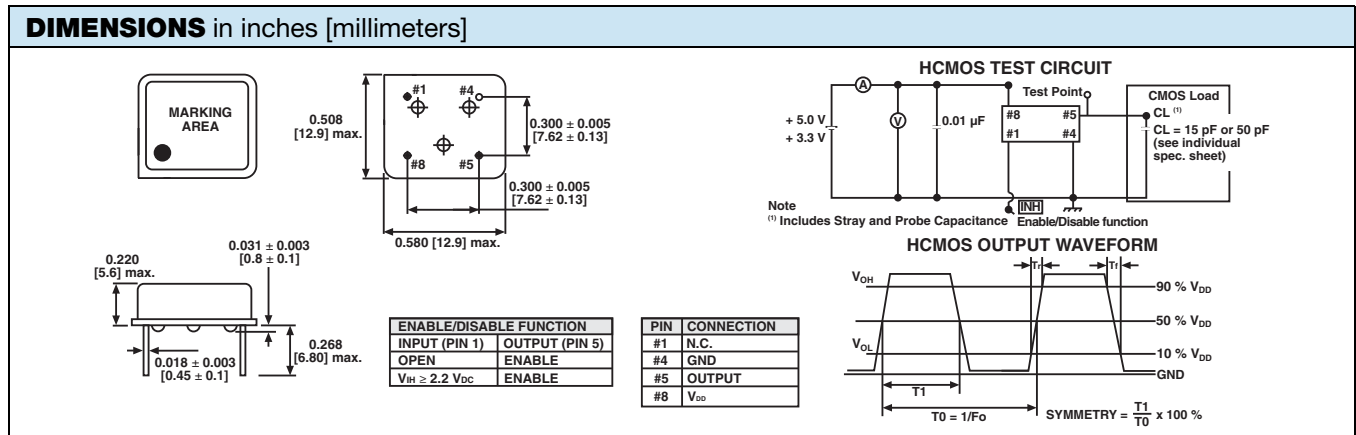
- Size: 8 pin half size
- Industry standard
- Tri-state enable/disable
- Wide frequency range
- Low cost
- Resistance weld package
- 5 V
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



| STANDARD ELECTRICAL SPECIFICATIONS |            |                                |   |
|------------------------------------|------------|--------------------------------|---|
| PARAMETER                          | SYMBOL     | CONDITION                      | VALUE   |
| Frequency range                    | $F_O$      | -                              | 1.000 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                     | $I_{DD}$   | 1.000 MHz to 23.999 MHz        | 20 mA max.  |
|                                    |            | 24.000 MHz to 49.999 MHz       | 30 mA max.  |
|                                    |            | 50.000 MHz to 69.999 MHz       | 40 mA max.  |
|                                    |            | 70.000 MHz to 100.000 MHz      | 60 mA max.  |
| Output symmetry                    | Sym        | at $\frac{1}{2} V_{DD}$        | 40 %/60 % (45 %/55 % option)  |
| Rise time                          | $t_r$      | 20 % $V_{DD}$ to 80 % $V_{DD}$ | 10 ns max.  |
| Fall time                          | $t_f$      | 80 % $V_{DD}$ to 20 % $V_{DD}$ | 10 ns max.  |
| Output voltage                     | $V_{OH}$   | -                              | 90 % $V_{DD}$ min.  |
|                                    | $V_{OL}$   | -                              | 10 % $V_{DD}$ max.  |
| Output load                        | HCMOS load | TTL load                       | 1 TTL to 10 TTL   |
|                                    |            | -                              | to 50M: 50 pF   |
|                                    |            | -                              | to 70M: 30 pF   |
|                                    |            | -                              | to 100M: 15 pF  |
| Start-up time                      | $t_s$      | -                              | 10 ms max.  |
| Pin 1, tri-state function          |            | -                              | pin 1 = H or open (output active at pin 5)<br>pin 1 = L (high impedance at pin 5) |

### Note

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





| ORDERING INFORMATION |  |   |  |               |                               |
|----------------------|--|---|--|---------------|-------------------------------|
| XO-52                | B  | R   | E  | 40M           | e2                            |
| MODEL                | FREQUENCY STABILITY  | OTR   | ENABLE/DISABLE                                 | FREQUENCY/MHz | JEDEC LEAD (Pb)-FREE standard |
|                      | AA = 0.0025 % (25 ppm)<br>A = 0.005 % (50 ppm)<br>B = 0.01 % (100 ppm) | blank = 0 °C to + 70 °C<br>R = - 40 °C to + 85 °C | blank = pin 1 open<br>E = disable to tri-state |               |                               |

| GLOBAL PART NUMBER |   |   |   |                     |     |                |              |         |   |           |   |   |
|--------------------|---|---|---|---------------------|-----|----------------|--------------|---------|---|-----------|---|---|
| X                  | O | 5 | 2 | C                   | T   | E              | L            | N       | A | 4         | 0 | M |
| MODEL              |   |   |   | FREQUENCY STABILITY | OTR | ENABLE/DISABLE | PACKAGE CODE | OPTIONS |   | FREQUENCY |   |   |

| GLOBAL PART NUMBERING   |   |   |   |  |  |   |   |   |   |   |   |   |
|---|---|---|---|--|--|---|---|---|---|---|---|---|
| X   | O   | 5   | 2   | C  | T  | E   | L | N | A | 4 | 0 | M |
| <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:      | M2802XXXXX (part number)   |
| Line 2:      | XX.XXXXM (frequency)       |
| Line 3:      | yywwvv (date/factory code) |



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