

## Full Size Clock Oscillators TTL/HCMOS Compatible



The XO-54 series oscillator is Full Size Tri-state Enable/Disable control. The metal package with pin #7 case ground acts as shielding to minimize EMI radiation.

### FEATURES

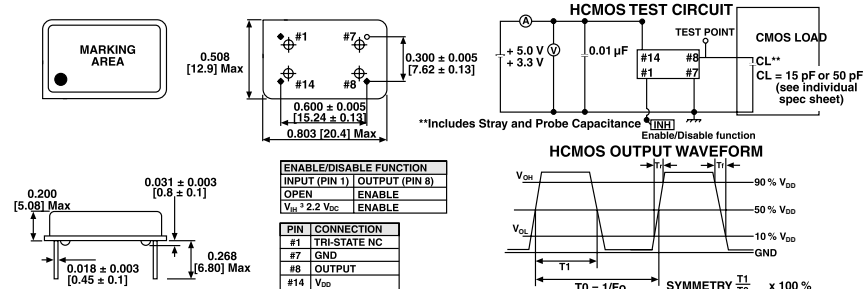
- 14 pin full size
- Industry standard
- Wide frequency range
- Low cost
- Tri-State enable/disable
- Resistance weld package
- 5 V
- Lead (Pb)-free terminations and RoHS compliant



| STANDARD ELECTRICAL SPECIFICATIONS |            |  |  |
|------------------------------------|------------|--|--|
| PARAMETER                          | SYMBOL     | CONDITION                              | XO-54  |
| Frequency Range                    | $F_O$      |  | 1 MHz ~ 100.00 MHz   |
| Frequency Stability*               |            | All Condition*                         | $\pm 25$ ppm, $\pm 50$ ppm, $\pm 100$ ppm  |
| Operating Temperature Range        | $T_{OPR}$  |  | $0^\circ\text{C} \sim 70^\circ\text{C}$ ( $-40^\circ\text{C} \sim +85^\circ\text{C}$ option) |
| Storage Temperature Range          | $T_{STG}$  |  | $-55^\circ\text{C} \sim +125^\circ\text{C}$  |
| Power Supply Voltage               | $V_{DD}$   |  | $5.0\text{ V} \pm 10\%$  |
| Aging (First Year)                 |            | $25^\circ\text{C} \pm 3^\circ\text{C}$ | $\pm 5$ ppm  |
| Supply Current                     | $I_{DD}$   | 1 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        | $1/2 V_{DD}$                           | 40/60 % (45/55 % Option)   |
| Rise Time                          | $T_r$      | $10\% V_{DD} \sim 90\% V_{DD}$         | 10 ns Max  |
| Fall Time                          | $T_f$      | $90\% V_{DD} \sim 10\% V_{DD}$         | 10 ns Max  |
| Output Voltage                     | $V_{OH}$   |  | $90\% V_{DD}$ Min  |
|                                    | $V_{OL}$   |  | $10\% V_{DD}$ Max  |
| Output Load                        | TTL Load   |  | $1 \sim 10$ TTL  |
|                                    | HCMOS Load |  | $\sim 50\text{ M} : 50\text{ pF}$  |
|                                    |            |  | $\sim 70\text{ M} : 30\text{ pF}$  |
| Start-up Time                      |            | $T_s$                                  | $\sim 100\text{ M} : 15\text{ pF}$<br>10 ms Max  |
| Pin 1, Tri-State Function          |            |  | Pin 1 = H or open.... Output active at pin 8<br>Pin 1 = L.... High Impedance at pin 8        |

\* Include:  $25^\circ\text{C}$  tolerance, operating temperature range, input voltage change, aging, load change, shock and vibration.

### DIMENSIONS in millimeters



| ORDERING INFORMATION  |   |   |   |                              |  |
|-----------------------|---|---|---|------------------------------|--|
| <b>XO-54</b><br>MODEL | <b>B</b><br>FREQUENCY STABILITY<br>AA = 0.0025 % (25 ppm)<br>A = 0.005 % (50 ppm)<br>B = 0.01 % (100 ppm)<br>Standard | <b>R</b><br>OTR<br>Blank = $0^\circ\text{C}$ to $+70^\circ\text{C}$<br>R = $-40^\circ\text{C}$ to $+85^\circ\text{C}$ | <b>E</b><br>ENABLE/DISABLE<br>Blank = Pin 1 open<br>E = Disable or Tristate | <b>40 M</b><br>FREQUENCY/MHZ | <b>e2</b><br>JEDEC<br>LEAD (Pb)-FREE<br>STANDARD |

| GLOBAL PART NUMBER |   |   |   |                     |     |                |              |         |   |           |   |   |
|--------------------|---|---|---|---------------------|-----|----------------|--------------|---------|---|-----------|---|---|
| X                  | O | 5 | 4 | C                   | T   | E              | D            | 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 |
| MODEL NUMBER  |   |   |   | FREQUENCY STABILITY  | OPERATING TEMPERATURE (OTR)                | ENABLE/DISABLE                            | PACKAGE CODE   | OPTIONS  | FREQUENCY   |   |   |   |
| XO53 = XO-53<br>XO54 = XO-54<br>XO34 = XO-543<br>XO52 = XO-52<br>XO32 = XO-523<br>XO56 = XO-56<br>XOVC = XOVC-23<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 %<br>(100 ppm)<br>D = 0.005 %<br>(50 ppm)<br>E = 0.0025 %<br>(25 ppm) | T = 0 °C to +70 °C<br>R = -40 °C to +85 °C | F = Pin 1 Open<br>E = Disable to Tristate | TAPE AND REEL<br>H = RF7<br><br>BULK<br>A = B04<br>(XO63, XO62, XO61)<br>C = D06<br>(XO57, XO37, XO27, XO17)<br>D = D07<br>(XO53, XO54, XO34, XO56, XOVC, XO55, XO35)<br>L = D08<br>(XO52, XO32, XO5M) | NA = No Additional Options<br>60 = 45/55 Symmetry<br><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  |   |   |   |  |  |   |  |  |   |   |   |   |



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