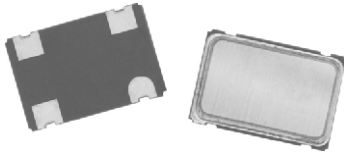


## Surface Mount Oscillator



The XOSM-57 series is an ultra miniature package clock oscillator with dimensions 7.0 mm x 5.0 mm x 1.9 mm. It is mainly used in portable PC and telecommunication devices and equipment.

### FEATURES

- Size: 7.0 x 5.0 x 1.9 (mm)
- Miniature package
- Tri-state enable/disable
- TTL/HCMOS compatible
- Tape and reel
- I<sub>R</sub> re-flow
- 5 V input voltage
- Compliant to RoHS Directive 2002/95/EC


**RoHS**  
COMPLIANT

| STANDARD ELECTRICAL SPECIFICATIONS |                                |                           |   |
|------------------------------------|--------------------------------|---------------------------|---|
| PARAMETER                          | SYMBOL                         | CONDITION                 | VALUE   |
| Frequency range                    | F <sub>O</sub>                 | -                         | 1.500 MHz to 100.000 MHz  |
| Frequency stability <sup>(1)</sup> |                                | all conditions            | ± 25 ppm, ± 50 ppm, ± 100 ppm   |
| Operating temperature range        | T <sub>OPR</sub>               | -                         | 0 °C to 70 °C   |
|                                    |                                |                           | - 40 °C to + 85 °C (option)   |
| Storage temperature range          | T <sub>STG</sub>               | -                         | - 55 °C to + 125 °C   |
| Power supply voltage               | V <sub>DD</sub>                | -                         | 5.0 V ± 10 %  |
| Aging (first year)                 |                                | 25 °C ± 3 °C              | ± 5 ppm   |
| Supply current                     | I <sub>DD</sub>                | 1.500 MHz to 20.000 MHz   | 20 mA max.  |
|                                    |                                | 20.001 MHz to 50.000 MHz  | 35 mA max.  |
|                                    |                                | 30.001 MHz to 100.000 MHz | 45 mA max.  |
| Output symmetry                    | Sym                            | at 1/2 V <sub>DD</sub>    | 40 %/60 % (45 %/55 % option)  |
| Rise/fall time                     | t <sub>r</sub> /t <sub>f</sub> | 1.500 MHz to 67.000 MHz   | 10 ns   |
|                                    |                                | 67.001 MHz to 100.000 MHz | 3 ns  |
| Output voltage                     | V <sub>OH</sub>                | -                         | 90 % V <sub>DD</sub> min.   |
|                                    | V <sub>OL</sub>                | -                         | 10 % V <sub>DD</sub> max.   |
| Output load                        |                                | 1.500 MHz to 67.000 MHz   | 10 TTL or 50 pF max.  |
|                                    |                                | 67.001 MHz to 100.000 MHz | 15 pF max.  |
| Start-up time                      | t <sub>s</sub>                 | -                         | 10 ms max.  |
| Pin 1, tri-state function          |                                | -                         | pin 1 = H or open (output active at pin 3)<br>pin 1 = L (high impedance at pin 3) |

### Note

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

| DIMENSIONS in inches [millimeters] |  |     |            |    |              |    |     |    |        |    |                 |
|------------------------------------|--|-----|------------|----|--------------|----|-----|----|--------|----|-----------------|
|                                    |  |     |            |    |              |    |     |    |        |    |                 |
|                                    |  |     |            |    |              |    |     |    |        |    |                 |
|                                    | <table border="1"> <thead> <tr> <th>PIN</th> <th>CONNECTION</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>TRI-STATE/NC</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>OUTPUT</td> </tr> <tr> <td>#4</td> <td>V<sub>DD</sub></td> </tr> </tbody> </table> | PIN | CONNECTION | #1 | TRI-STATE/NC | #2 | GND | #3 | OUTPUT | #4 | V <sub>DD</sub> |
| PIN                                | CONNECTION   |     |            |    |              |    |     |    |        |    |                 |
| #1                                 | TRI-STATE/NC   |     |            |    |              |    |     |    |        |    |                 |
| #2                                 | GND  |     |            |    |              |    |     |    |        |    |                 |
| #3                                 | OUTPUT   |     |            |    |              |    |     |    |        |    |                 |
| #4                                 | V <sub>DD</sub>  |     |            |    |              |    |     |    |        |    |                 |

### Note

- A 0.01 µF bypass capacitor should be placed between V<sub>DD</sub> (pin 4) and GND (pin 2) to minimize power supply line noise



## ORDERING INFORMATION

| XOSM-57 | B   | R   | E  | 50M           | e4                               |
|---------|---|---|--|---------------|----------------------------------|
| 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 = standard<br>R = - 40 °C to + 85 °C | ENABLE/DISABLE<br>E = disable to tri-state | FREQUENCY/MHz | JEDEC LEAD (Pb)-FREE<br>standard |

## GLOBAL PART NUMBER



## 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: M2804XXXXX (part number)  
 Line 2: XX.XXXXX (frequency)  
 Line 3: yywwvv (date/factory code)



## Disclaimer

All product specifications and data are subject to change without notice.

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