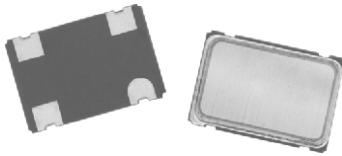


## Surface Mount Oscillator



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
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

| 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 |  |  |                          |               |                      |
|----------------------|--|--|--------------------------|---------------|----------------------|
| <b>XOSM-57</b>       | <b>B</b>   | <b>R</b>                                   | <b>E</b>                 | <b>50M</b>    | <b>e4</b>            |
| MODEL                | FREQUENCY STABILITY  | OTR  | ENABLE/DISABLE           | FREQUENCY/MHz | JEDEC LEAD (Pb)-FREE |
|                      | AA = 0.0025 % (25 ppm)<br>A = 0.005 % (50 ppm)<br>B = 0.01 % (100 ppm)<br>standard | blank = standard<br>R = - 40 °C to + 85 °C | E = disable to tri-state |               | standard             |

| GLOBAL PART NUMBER |   |   |   |                     |     |                |              |         |   |           |   |   |
|--------------------|---|---|---|---------------------|-----|----------------|--------------|---------|---|-----------|---|---|
| X                  | O | 5 | 7 | C                   | T   | E              | C            | N       | A | 5         | 0 | M |
| MODEL              |   |   |   | FREQUENCY STABILITY | OTR | ENABLE/DISABLE | PACKAGE CODE | OPTIONS |   | FREQUENCY |   |   |

| GLOBAL PART NUMBERING OPTIONS  |   |   |   |   |                         |  |  |   |   |   |   |   |
|--|---|---|---|---|-------------------------|--|--|---|---|---|---|---|
| X  | O | 5 | 7   | C   | T                       | E  | C  | 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>  |   |   |   |   |
| 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 |   |   | 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 | 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) | 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: XO57CTECNA40M   |   |   |   |   |                         |  |  |   |   |   |   |   |

| PART MARKING |                            |
|--------------|----------------------------|
| Line 1:      | M2804XXXXX (part number)   |
| Line 2:      | XX.XXXXM (frequency)       |
| Line 3:      | yywwvv (date/factory code) |



## **Disclaimer**

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Vishay:](#)

[XO57CTECNA5M](#) [XO57CTECNA16M](#) [XO57CTECNA20M](#) [XO57CTECNA24M](#) [XO57CTECNA8M](#)  
[XO57CTECNA3M6864](#) [XO57CTECNA50M](#) [XO57CTECNA14M31818](#) [XO57CTECNA1M8432](#) [XO57CTECNA4M](#)  
[XO57CTECNA4M9152](#) [XO57CTECNA32M](#) [XO57CTECNA40M](#) [XO57CTECNA25M](#) [XO57CTECNA12M](#)  
[XO57CTECNA7M3728](#) [XO57CREHNA16M384](#)