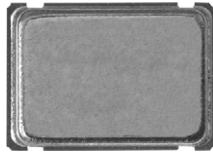


## Surface-Mount Oscillator



The XOSM-572 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
- HCMOS compatible
- Tape and reel
- I<sub>R</sub> re-flow
- 2.5 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>                 | -                        | 1.000 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>                | -                        | 2.5 V ± 10 %  |
| Aging (first year)                 |                                | 25 °C ± 3 °C             | ± 5 ppm   |
| Supply current                     | I <sub>DD</sub>                | 1.000 MHz to 100.000 MHz | 30 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> | 1.000 MHz to 100.000 MHz | 6 ns max.   |
| Output voltage                     | V <sub>OH</sub>                | -                        | 90 % V <sub>DD</sub> min.   |
|                                    | V <sub>OL</sub>                | -                        | 10 % V <sub>DD</sub> max.   |
| Output load                        |                                | -                        | 10 TTL or 15 pF   |
| 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



| PART NUMBER CONFIGURATIONS (to be used on all New Designs) |                       |                   |                      |  |   |  |  |   |   |
|--|-----------------------|-------------------|----------------------|--|---|--|--|---|---|
| <b>X O</b>   | <b>5 7</b>            | <b>C</b>          | <b>2</b>             | <b>D</b>   | <b>R</b>  | <b>E</b>                                     | <b>H</b>                                 | <b>T</b>  | <b>1 6 M 1 2 8</b>  |
| Oscillator   | Package / Size<br>5 7 | Logic<br>C = CMOS | Voltage<br>2 = 2.5 V | Stability<br>C = ± 100 ppm<br>D = ± 50 ppm<br>F = ± 35 ppm<br>G = ± 30 ppm<br>E = ± 25 ppm<br>H = ± 20 ppm | Temp.<br>S = -10 °C to +70 °C<br>R = -40 °C to +85 °C | Tri-State<br>N = no connect<br>E = Tri-State | Package<br>A = bulk<br>H = tape and reel | Options<br>X = no options<br>T = 45/55<br>Contact factory for available options | Frequency<br>Use "M" as decimal place holder<br>Frequency must be six digits - complete with "0" at the end |

Previous / legacy part number information: still valid for existing designs;  
**all New Designs should use the new part configuration above**

| PREVIOUS / LEGACY GLOBAL PART NUMBERING  |  |   |                          |  |  |   |
|--|--|---|--------------------------|--|--|---|
| <b>X O 2 7</b>   | <b>C</b>   | <b>T</b>                                      | <b>E</b>                 | <b>C</b>   | <b>N A</b>   | <b>5 0 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>  |
| 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: XO27CTECNA50M   |  |   |                          |  |  |   |
| <b>XOSM-572</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 STANDARD   |   |
|  | 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 |  |  |   |

| PART MARKING |                            |
|--------------|----------------------------|
| Line 1:      | M2805XXXXX (part number)   |
| Line 2:      | XX.XXXXM (frequency)       |
| Line 3:      | yywwvv (date/factory code) |



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