

Surface-Mount Oscillator



The XOSM-533 series is an ultra miniature package clock oscillator with dimensions 5.0 mm x 3.2 mm x 1.3 mm. It is mainly used in portable PC and telecommunication devices and equipment.

FEATURES

- Size: 5.0 x 3.2 x 1.3 (mm)
- Miniature package
- Tri-state enable / disable
- HCMOS compatible
- Tape and reel
- I_R re-flow
- 3.3 V input voltage
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

STANDARD ELECTRICAL SPECIFICATIONS			
PARAMETER	SYMBOL	CONDITION	VALUE
Frequency range	F _O	-	1.544 MHz to 100.000 MHz
Frequency stability ⁽¹⁾		All conditions	± 20 ppm, ± 25 ppm, ± 30 ppm, ± 35 ppm, ± 50 ppm, ± 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}	-	3.3 V ± 10 %
Aging (first year)		25 °C ± 3 °C	± 5 ppm
Supply current	I _{DD}	1.544 MHz to 9.999 MHz	8 mA max.
		10.000 MHz to 34.999 MHz	10 mA max.
		35.000 MHz to 49.999 MHz	25 mA max.
		50.000 MHz to 100.000 MHz	35 mA max.
Output symmetry	Sym	At 1/2 V _{DD}	40 %/60 % (45 %/55 % option)
Rise time	t _r	10 % V _{DD} to 90 % V _{DD}	7 ns max.
Fall time	t _f	90 % V _{DD} to 10 % V _{DD}	7 ns max.
Output voltage	V _{OH}	-	90 % V _{DD} min.
	V _{OL}	-	10 % V _{DD} max.
Output load	HCMOS load	-	30 pF max. (15 pF typ.)
Start-up time	t _s	-	10 ms max.
Pin 1, tri-state function		-	Pin 1 = H or open (output active at pin 3) Pin 1 = L (high impedance at pin 3)

Note

⁽¹⁾ 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_{DD}</td> </tr> </tbody> </table>		PIN	CONNECTION	#1	TRI-STATE/NC	#2	GND	#3	OUTPUT	#4	V _{DD}
PIN	CONNECTION										
#1	TRI-STATE/NC										
#2	GND										
#3	OUTPUT										
#4	V _{DD}										

Note

- A 0.01 μF bypass capacitor should be placed between V_{DD} (pin 4) and GND (pin 2) to minimize power supply line noise



PART NUMBER CONFIGURATIONS (to be used on all New Designs)																
X	O	5	3	C	3	D	R	E	H	T	1	6	M	1	2	8
Oscillator	Package / Size	Logic	Voltage	Stability	Temp.	Tri-State	Package	Options	Frequency							
	5 3	C = CMOS	3 = 3.3 V	C = ± 100 ppm D = ± 50 ppm F = ± 35 ppm G = ± 30 ppm E = ± 25 ppm H = ± 20 ppm ⁽¹⁾	S = -10 °C to +70 °C R = -40 °C to +85 °C	N = no connect E = Tri-State	H = tape and reel	X = no options T = 45/55 Contact factory for available options	Use "M" as decimal place holder Frequency must be six digits - complete with "0" at the end							

Note

(1) Contact factory for availability

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												
X	O	6	3	C	T	E	A	N	A	5	0	M
MODEL NUMBER				FREQUENCY STABILITY	OPERATING TEMPERATURE (OTR)	ENABLE/DISABLE	PACKAGE CODE	OPTION		FREQUENCY		
XO63 = XOSM-533 XO62 = XOSM-532 XO61 = XOSM-531 XO57 = XOSM-57 XO37 = XOSM-573 XO27 = XOSM-572 XO17 = XOSM-571				C = 0.01 % (100 ppm) D = 0.005 % (50 ppm) E = 0.0025 % (25 ppm)	T = 0 °C to +70 °C R = -40 °C to +85 °C	E = disable to tristate	Tape and reel H = RF7 Bulk A = B04 (XO63, XO62, XO61) C = D06 (XO57, XO37, XO27, XO17)	NA = no additional options 60 = 45/55 symmetry Contact factory for all other options		4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12 288 MHz "M" is used as decimal place holder in frequency		
Example: XO63CTEANA50M												
XOSM-533	B	R	E	50M	e4							
MODEL	FREQUENCY STABILITY	OTR	ENABLE / DISABLE	FREQUENCY/MHz	JEDEC® LEAD (Pb)-FREE STANDARD							
	AA = 0.0025 % (25 ppm) A = 0.005 % (50 ppm) B = 0.01 % (100 ppm) standard	blank = standard R = -40 °C to +85 °C	E = disable to tri-state									

PART MARKING	
Line 1:	M2807XXXXX (part number)
Line 2:	XX.XXXXM (frequency)
Line 3:	yywwvv (date/factory code)



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