

Full Size Voltage Controlled Crystal Oscillators



The XOVC-23 is a full size voltage controlled crystal oscillator designed primarily for use in phase locked loops, phase shift keying and other telecommunication applications such as ADSL and cable modem.

FEATURES

- Size: 14 pin half size
- Industry standard
- Wide frequency range
- Low cost
- Resistance weld package
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE

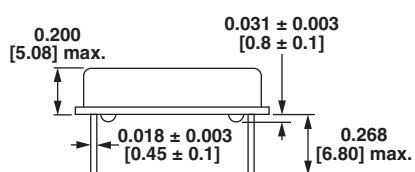
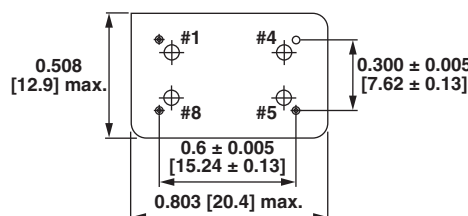
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE
Frequency range ⁽¹⁾	F _O	-	1 MHz to 40.000 MHz
Frequency calibration		at 25 °C	± 15 ppm
Temperature stability		over T _{OPR}	± 15 ppm, ± 25 ppm, ± 50 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}	-	5.0 V ± 5 %
Aging (first year)		25 °C ± 3 °C	± 5 ppm
Supply current	I _{DD}	1.000 MHz to 23.999 MHz	15 mA max.
		24.000 MHz to 40.000 MHz	25 mA max.
Output symmetry	Sym	at 1/2 V _{DD}	40 %/60 % (45 %/55 % option)
Rise time	t _r	20 % V _{DD} to 80 % V _{DD}	10 ns max.
Fall time	t _f	80 % V _{DD} to 20 % V _{DD}	10 ns max.
Output voltage	V _{OH}	-	90 % V _{DD} min.
	V _{OL}	-	10 % V _{DD} max.
Output load		-	15 pF max.
Start-up time	t _s	-	10 ms max.
Stability vs. power change		V _{DD} ± 5 %	± 5 ppm
Stability vs. load change		15 pF ± 10 %	± 3 ppm
Pullability		over control voltage range	± 50 ppm, ± 100 ppm, ± 200 ppm
Control voltage range		-	0.5 V to 4.5 V

Note

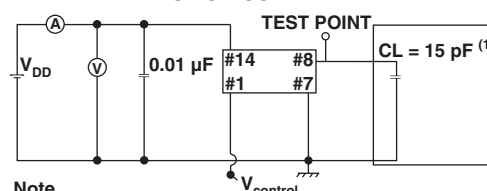
⁽¹⁾ Frequency over 40.000 MHz, please consult factory

DIMENSIONS in inches [millimeters]



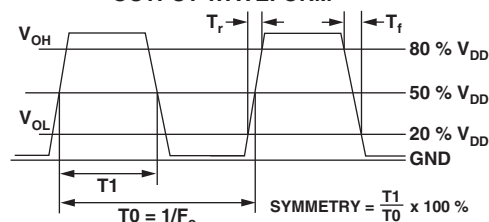
PIN	CONNECTION
#1	V _{control}
#7	GND
#8	OUTPUT
#14	V _{DD}

TEST CIRCUIT



Note
⁽¹⁾ Includes stray and probe capacitance

OUTPUT WAVEFORM



ORDERING INFORMATION

XOVC-23	B	-1	27M	e2
MODEL	FREQUENCY STABILITY AA = 0.0025 % (25 ppm) A = 0.005 % (50 ppm) B = 0.01 % (100 ppm)	PULLABILITY -1 = ± 100 ppm -2 = ± 200 ppm -3 = ± 50 ppm	FREQUENCY/MHz	JEDEC LEAD (Pb)-FREE standard

Note

- Contact factory for other models, frequencies, stabilities and temperature ranges

GLOBAL PART NUMBER

X	O	V	C	1	C	D	N	A	2	7	M
MODEL				PULLABILITY	FREQUENCY STABILITY	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	OPTION		FREQUENCY		
XO53 = XO-53 XO54 = XO-54 XO34 = XO-543 XO52 = XO-52 XO32 = XO-523 XO5M = XOSM-52 XO63 = XOSM-533 XO62 = XOSM-532 XO61 = XOSM-531 XO57 = XOSM-57 XO37 = XOSM-573 XO27 = XOSM-572 XO17 = XOSM-571 XO55 = XOSM-55 XO35 = XOSM-553				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	F = pin 1 open E = disable to tristate	Tape and reel H = RF7 Bulk A = B04 (XO63, XO62, XO61) C = D06 (XO57, XO37, XO27, XO17) D = D07 (XO53, XO54, XO34, XO55, XO35) L = D08 (XO52, XO32, XO5M)	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: XO52CTELNA40M												

PART MARKING

Line 1:	M28_XXXXX (part number)
Line 2:	XX.XXXXM (frequency)
Line 3:	yywwvv (date/factory code)



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