

FREQUENCY STABILITY

OVER:

OPERATING TEMP. RANGE : *see note 1*
LONG TERM AGING 1ST YEAR: $< \pm 0.7 \text{ ppm}^*$
10 YEARS: $< \pm 4.0 \text{ ppm}^*$
SUPPLY VOLTAGE $\pm 0.2 \text{ V}$: $< \pm 0.1 \text{ ppm}^*$
LOAD $\pm 10\%$: $< \pm 0.01 \text{ ppm}$

POWER SUPPLY

SUPPLY INPUT: $V_{CC} = 5 \text{ V} \pm 0.2 \text{ V}^*$
INPUT CURRENT : $< 70 \text{ mA} @ +30^\circ\text{C}^*$
INPUT CURRENT : $< 110 \text{ mA} @ -20^\circ\text{C}^*$

FREQUENCY CONTROL RANGE

CONTROL VOLTAGE: *see note 2*
FREQUENCY DEVIATION: $> \pm 4 \text{ ppm}^*$
RESPONSE SLOPE: positive

OUTPUT

OUTPUT SIGNAL: HC-MOS compatible
SYMMETRY: 40 (min.) / 60 (max.)
% @ $V_{CC} / 2^*$
RISE AND FALL TIME: $t_r < 7 \text{ ns}$ $t_f < 7 \text{ ns}^*$
LEVEL „0“ AND „1“: $< 0.4 \text{ V}$ $> V_{CC} - 0.5 \text{ V}$
FAN OUT (LOAD): 10 LS

ENVIRONMENT

OPERABLE TEMP. RANGE: -40 to $+85^\circ\text{C}$
STORAGE TEMP. RANGE: -65 to $+125^\circ\text{C}$
VIBRATION: 10 to 2000 Hz / 10 g
SHOCK: 2000 g, 0.3 ms, $\frac{1}{2}$ sine
PACKAGE: DIL 14, 4 pins, GND to case
PACKAGE HEIGHT: 8 mm
(see packaging info)

WARM-UP

$\Delta F/F$: within spec after 30s @ 0°C^*
CURRENT: $< 250 \text{ mA}$ during 10s

MISCELLANEOUS

SHORT TERM STABILITY: $< 5 \text{ E-10}$ 0.1 s to 30 s
Typical 5 E-11 @ 1 s
PHASE NOISE (BW = 1Hz):
(typical, @ 10MHz in static conditions)
1 Hz: -70 dBc / Hz
10 Hz: -100 dBc / Hz
100 Hz: -130 dBc / Hz
1 kHz: -140 dBc / Hz

* Customer's specification on request

NOTE 1

TEMP. RANGE *	<u>OCXOV-AR1, AV5</u>
	0 to $+60^\circ\text{C}$
STABILITY *	$\pm 0.2 \text{ ppm}$
	(0.4 ppm peak to peak)
TEMP. RANGE *	<u>OCXOV-BR1, BV5</u>
	-20 to $+70^\circ\text{C}$
STABILITY *	$\pm 0.3 \text{ ppm}$
	(0.6 ppm peak to peak)
TEMP. RANGE *	<u>OCXOV-CR1, CV5</u>
	-40 to $+85^\circ\text{C}$
STABILITY *	$\pm 0.5 \text{ ppm}$
	(1 ppm peak to peak)

NOTE 2

ADJUSTMENT WITH RESISTOR (connected to ground) INPUT IMPEDANCE	<u>OCXOV-AR1, BR1, CR1</u>
	0 to 10 k Ω
	$> -4.7 \text{ k}\Omega$
ADJUSTMENT WITH VOLTAGE INPUT IMPEDANCE	<u>OCXOV-AV5, BV5, CV5</u>
	0.5 to 5 V
	$> 47 \text{ k}\Omega$

MARKING EXAMPLE

			
OCXOV-BV5	01.25	Type	Spec No.
20.000 MHz	12	Frequency	Date Code
O		O (PIN 1)	Piece No.

ORDERING INFORMATION EXAMPLE

O C X O V - B V 5 20 MHz x x x	
Oscillator Type OCXO = oven controlled Crystal Oscillator	N° of customer spec.
Oscillator Version V = low power voltage 5V	Oscillator output frequency
Temperature Range A = 0 to $+60^\circ\text{C}$; $\pm 0.2 \text{ ppm}$ B = -20 to $+70^\circ\text{C}$; $\pm 0.3 \text{ ppm}$ C = -40 to $+85^\circ\text{C}$; $\pm 0.5 \text{ ppm}$ X = custom spec.	Frequency Adjustment R1 = external resistor V5 = voltage 5V Y = custom spec.

STANDARD FREQUENCIES (MHz)

10.0000	12.8000	16.0000	16.3840	19.4400	20.0000
40.0000					

DATE: June 2003

Revision No.: 7

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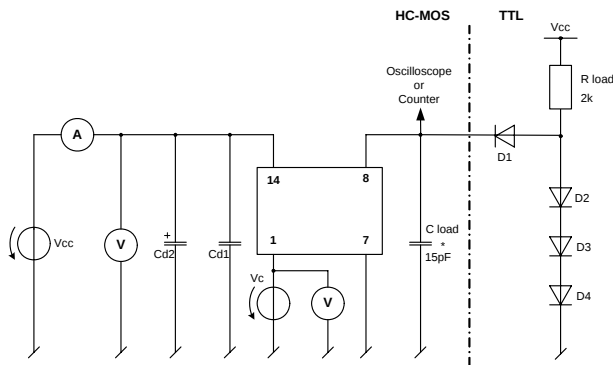
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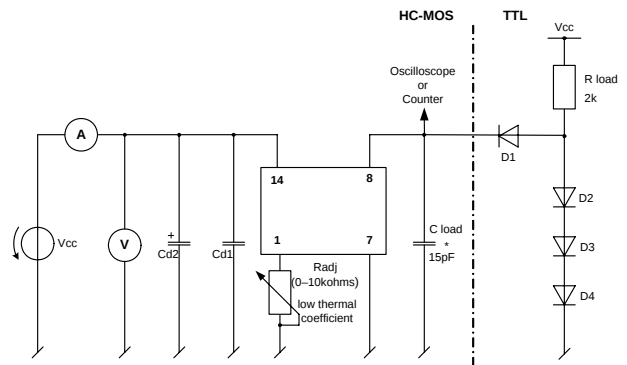
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Application and Test Circuit:

Adjustment with voltage

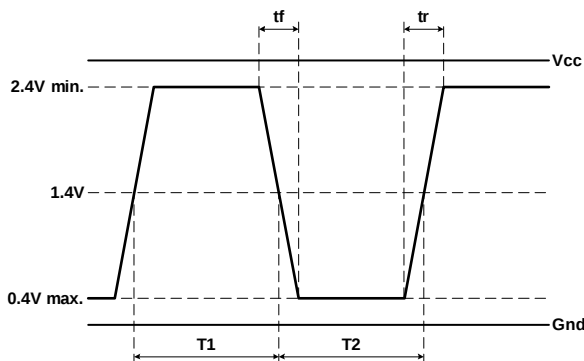


Adjustment with resistor

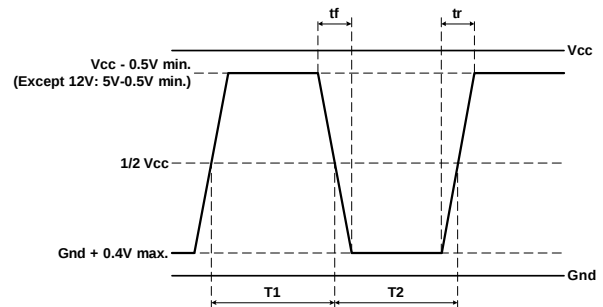


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



$$\text{Duty Cycle} = 100 \times \frac{T1}{T1 + T2} [\%]$$

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