

FREQUENCY STABILITY

OVER:

OPERATING TEMP. RANGE : *see note 1*
 LONG TERM AGING 1ST YEAR: $< \pm 0.3 \text{ ppm}^*$
 10 YEARS: $< \pm 2.5 \text{ ppm}^*$
 SUPPLY VOLTAGE $\pm 0.5 \text{ V}$: $< \pm 0.1 \text{ ppm}$
 (on request, $< \pm 0.025 \text{ ppm}$)
 LOAD $\pm 10\%$: $< \pm 0.01 \text{ ppm}$

POWER SUPPLY

SUPPLY INPUT: $V_{cc} = 12 \text{ V} \pm 0.5 \text{ V}^*$
 INPUT CURRENT : $< 25 \text{ mA} @ +30^\circ \text{C}^*$
 INPUT CURRENT : $< 40 \text{ mA} @ -20^\circ \text{C}^*$

FREQUENCY CONTROL RANGE

CONTROL VOLTAGE: *see note 2*
 FREQUENCY DEVIATION: $> \pm 2.5 \text{ ppm}^*$
 RESPONSE SLOPE: positive

OUTPUT

OUTPUT SIGNAL: HC-MOS compatible
 SYMMETRY: 40 (min.) / 60 (max.) % @ $V_{cc} / 2^*$
 RISE AND FALL TIME: $tr < 7 \text{ ns}$ $tf < 7 \text{ ns}^*$
 LEVEL „0“ AND „1“: $< 0.4 \text{ V}$ $> 5 \text{ V} - 0.5 \text{ V}$
 FAN OUT (LOAD): 10 LS

ENVIRONMENT

OPERABLE TEMP. RANGE: $-40 \text{ to } +85^\circ \text{C}$
 STORAGE TEMP. RANGE: $-65 \text{ to } +125^\circ \text{C}$
 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 60s @ 30°C^*
 CURRENT: $< 250 \text{ mA}$ during 10s

MISCELLANEOUS

SHORT TERM STABILITY: $< 1 \text{ E-10}$ 0.1 s to 30 s
 $< 5 \text{ E-11}$ @ 1 s
 PHASE NOISE (BW = 1Hz):
 (typical, @ 10MHz in static conditions)
 1 Hz: -60 dBc / Hz
 10 Hz: -90 dBc / Hz
 100 Hz: -120 dBc / Hz
 1 kHz: -130 dBc / Hz

* Customer's specification on request

NOTE 1

SCOCXOT-AR1, AV5	
TEMP. RANGE *	0 to $+60^\circ \text{C}$
STABILITY *	$\pm 0.025 \text{ ppm}$ (0.05 ppm peak to peak)
SCOCXOT-BR1, BV5	
TEMP. RANGE *	-20 to $+70^\circ \text{C}$
STABILITY *	$\pm 0.05 \text{ ppm}$ (0.1 ppm peak to peak)
SCOCXOT-CR1, CV5	
TEMP. RANGE *	-40 to $+85^\circ \text{C}$
STABILITY *	$\pm 0.1 \text{ ppm}$ (0.2 ppm peak to peak)

NOTE 2

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

MARKING EXAMPLE

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

ORDERING INFORMATION EXAMPLE

ORDERING INFORMATION EXAMPLE												
S	C	O	C	X	O	T	-	B	V	5	20 MHz	x x x
Oscillator Type						Oscillator Version					Oscillator output frequency	N° of customer spec.
SCOCXO = Low g sensitivity Oven Controlled Crystal Oscillator						T = tight tolerance						
Temperature Range											Frequency Adjustment	
A = 0 to +60°C; +/-0.05ppm											R1 = external resistor	
B = -20 to +70°C; +/-0.1ppm											V5 = voltage 5V	
C = -40 to +85°C; +/-0.2ppm											Y = custom spec.	
X = custom spec.												

STANDARD FREQUENCIES (MHz)

10.0000	12.8000	16.0000	16.3840	19.4400	20.0000
---------	---------	---------	---------	---------	---------

Date:	September 2005	Revision No. : 3	Revision Date : 10-06
-------	----------------	------------------	-----------------------

Page 1/2

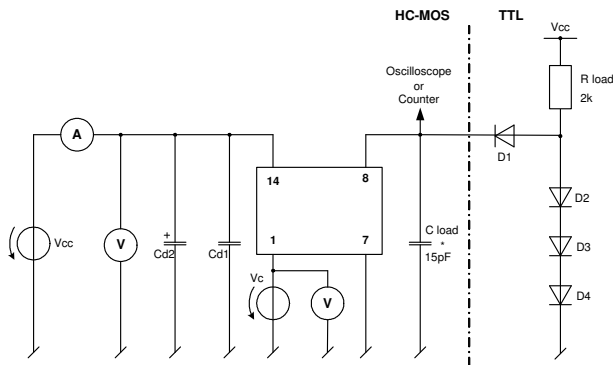
In accordance with our policy of continuous development and improvement,
we reserve the right to modify the design or the specifications of our products without prior notice.

Headquarters: Micro Crystal
 Div. of ETA SA
 Mühlestrasse 14
 CH-2540 Grenchen
 Switzerland

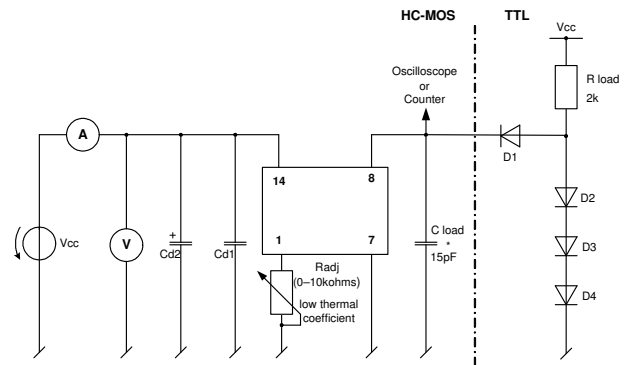
Tel. +41 32 655 82 82
 Fax +41 32 655 80 90
 Internet www.microcrystal.ch
 Email sales@microcrystal.ch

Application and Test Circuit:

Adjustment with voltage

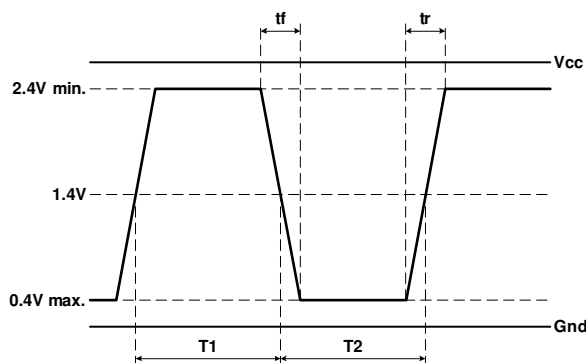


Adjustment with resistor

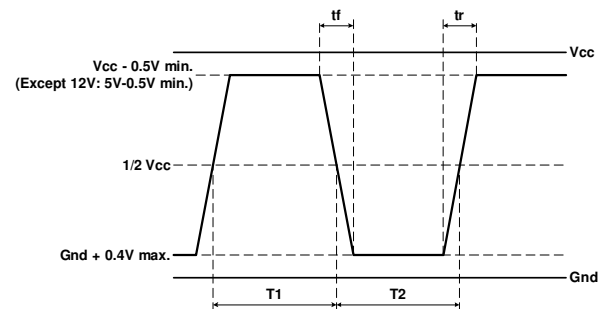


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



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

Date:	September 2005	Revision No. : 3	Revision Date : 10-06
-------	----------------	------------------	-----------------------

Page 2/2

In accordance with our policy of continuous development and improvement,
we reserve the right to modify the design or the specifications of our products without prior notice.

Headquarters: Micro Crystal
Div. of ETA SA
Mühlestrasse 14
CH-2540 Grenchen
Switzerland

Tel. +41 32 655 82 82
Fax +41 32 655 80 90
Internet www.microcrystal.ch
Email sales@microcrystal.ch