



| | |
|---------------------------------------|--|
| FREQUENCY STABILITY | |
| OVER: | |
| OPERATING TEMP. RANGE : | <i>see note 1</i> |
| LONG TERM AGING 1ST YEAR: | < ±0.3 ppm * |
| 10 YEARS: | < ±2.5 ppm * |
| SUPPLY VOLTAGE ± 0.5 V | < ±0.1 ppm (on request, < ±0.025 ppm) |
| LOAD ±10%: | < ±0.01 ppm |
| POWER SUPPLY | |
| SUPPLY INPUT: | Vcc = 12 V ±0.5 V * |
| INPUT CURRENT : | < 25 mA @ +30 °C * |
| INPUT CURRENT : | < 40 mA @ -20 °C * |
| FREQUENCY CONTROL RANGE | |
| CONTROL VOLTAGE: | <i>see note 2</i> |
| FREQUENCY DEVIATION: | > ±2.5 ppm * |
| RESPONSE SLOPE: | positive |
| OUTPUT | |
| OUTPUT SIGNAL: | HC-MOS compatible |
| SYMMETRY: | 40 (min.) / 60 (max.) % @ Vcc / 2 * |
| RISE AND FALL TIME: | tr < 7ns if < 7 ns * |
| LEVEL „0“ AND „1“: | < 0.4 V > 5V - 0.5 V |
| FAN OUT (LOAD): | 10 LS |
| ENVIRONMENT | |
| OPERABLE TEMP. RANGE: | -40 to +85 °C |
| STORAGE TEMP. RANGE: | -65 to +125 °C |
| VIBRATION: | 10 to 2000 Hz / 10 g |
| SHOCK | 2000 g, 0.3 ms, ½ sine |
| PACKAGE: | DIL 14, 4 pins, GND to case |
| PACKAGE HEIGHT: | 8 mm (see packaging info) |
| WARM-UP | |
| ΔF/F: | within spec after 60s @ 30 °C * |
| CURRENT: | < 250 mA during 10s |
| MISCELLANEOUS | |
| SHORT TERM STABILITY: | < 1 E-10 0.1 s to 30 s < 5 E-11 @ 1 s |
| PHASE NOISE (BW = 1Hz): | 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 | |
| TEMP. RANGE * | SCOCXOT-AR1, AV5 0 to +60 °C |
| STABILITY * | ±0.025 ppm (0.05 ppm peak to peak) |
| TEMP. RANGE * | SCOCXOT-BR1, BV5 -20 to +70 °C |
| STABILITY * | ±0.05 ppm (0.1 ppm peak to peak) |
| TEMP. RANGE * | SCOCXOT-CR1, CV5 -40 to +85 °C |
| STABILITY * | ±0.1 ppm (0.2 ppm peak to peak) |

| | |
|--|--|
| NOTE 2 | |
| ADJUSTMENT WITH RESISTOR (connected to ground) | SCOCXOT-AR1, BR1, CR1 0 to 10 kΩ |
| INPUT IMPEDANCE | > -4.7 kΩ |
| ADJUSTMENT WITH VOLTAGE | SCOCXOT-AV5, BV5, CV5 0.5 to 5 V |
| INPUT IMPEDANCE | > 47 kΩ |

| | | | |
|--|-------|---|-----------|
| MARKING EXAMPLE | | | |
|  | |  | |
| SCOCXOT-BV5 | | Type | Spec No. |
| 20.000 MHz | 01.25 | Frequency | Date Code |
| ○ | 12 | ○ (PIN 1) | Piece No. |

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

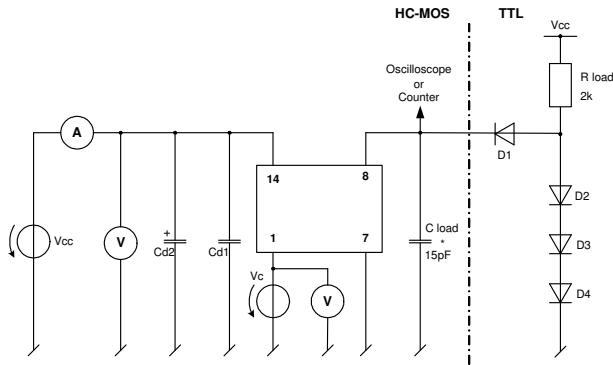
In accordance with our policy of continuous development and improvement, we reserve the right to modify the design or the specifications of our products without prior notice.

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

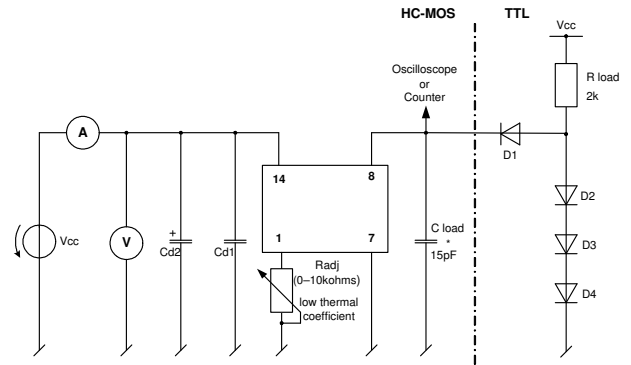
Tel. +41 32 655 82 82
Fax +41 32 655 80 90
Internet www.microcrystal.ch
Email sales@microcrystal.ch

Application and Test Circuit:

Adjustment with voltage

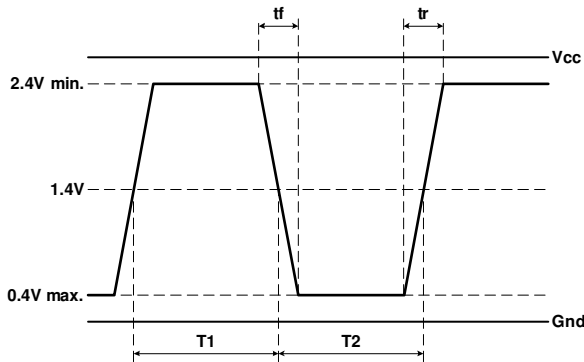


Adjustment with resistor

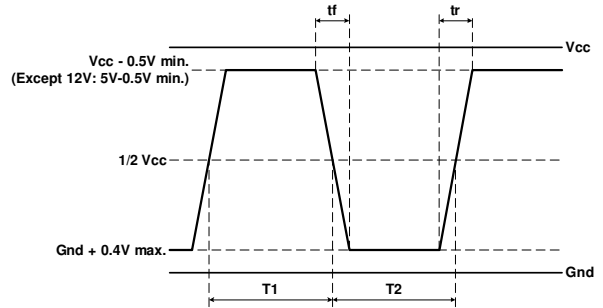


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



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

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

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