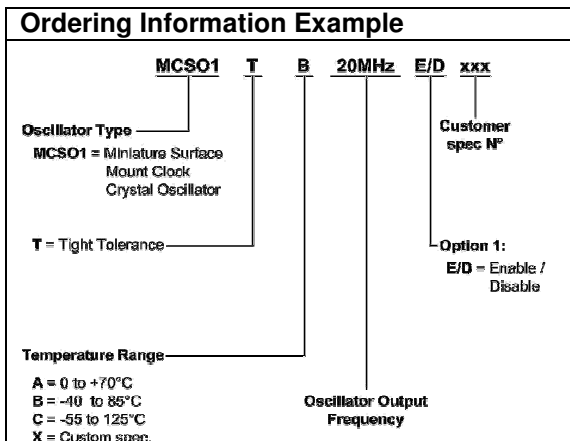


FREQUENCY STABILITY	
OVER:	
OPERATING TEMP. RANGE:	See note 1
OVERALL STABILITY:	$< \pm 50\text{ppm}^*$
INCLUDING:	
<ul style="list-style-type: none"> OVER OPERATING TEMPERATURE RANGE ADJUSTMENT @ 25°C LONG TERM AGING (1 YEAR) STABILITY OVER SUPPLY VOLTAGE $\pm 10\%$ STABILITY OVER LOAD (MIN. TO MAX.) 	
POWER SUPPLY	
SUPPLY VOLTAGE:	$V_{dd} = 5V \pm 10\%^*$
INPUT CURRENT:	$< 15\text{mA}^*$
OUTPUT	
OUTPUT SIGNAL:	HC-MOS compatible *
SYMMETRY:	40 / 60% (min.) @ $V_{dd} / 2^*$
RISE & FALL TIME:	$t_r < 7\text{ns}$ $t_f < 7\text{ns}^*$
LEVEL "0" & "1":	$< 0.4V$ $> V_{dd} - 0.5V$
START-UP TIME:	$< 5\text{ms}$
FAN OUT (LOAD):	10 TTL / LS *
ENVIRONMENT	
OPERABLE TEMP. RANGE:	-55 to +125°C
STORAGE TEMP. RANGE:	-65 to +125°C
VIBRATIONS:	10 to 2000Hz / 10g
SHOCKS:	5000g, 0.3ms, 1/2 sine
PACKAGE:	Ceramic
PACKAGE DIMENSIONS:	8.0 x 3.7 x 2.0mm (see packaging info)
PROCESSING:	Reflow soldering 260°C / 10s max. (see packaging info)
MISCELLANEOUS	
* Customer's specification on request	

Note 1: Operating Temperature Range	
MCSO1-A:	0 to +70 °C
MCSO1-B:	-40 to +85 °C
MCSO1-C:	-55 to +125 °C

Option 1: Enable / Disable (on request)	
See application circuit on page 2 for details	
Pin 1:	Pin 3 (Foot):
Open	Clock
H	Clock
L	High Z
Not available for $f < 500\text{kHz}$	

Marking Example			
Micro Crystal		Micro Crystal	
MCSO1T-B	E/D	Type	Option 1
20.000 MHz	09.44	Frequency	Date Code
○		○ (PIN 1)	



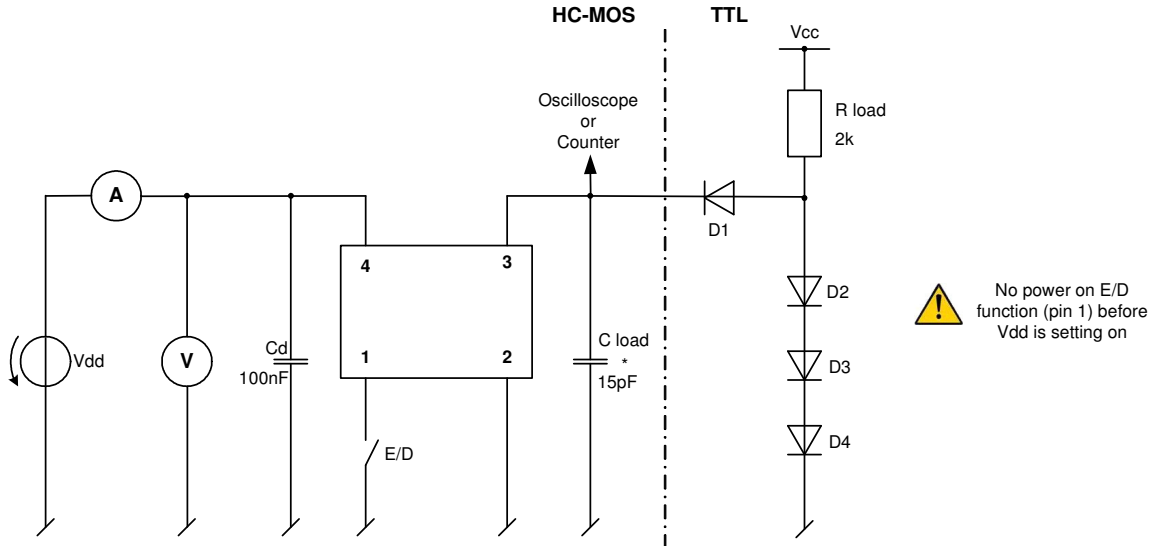
STANDARD FREQUENCIES [MHz]					
10.0000	10.1500	10.2300	10.2400	11.0592	12.0000
12.2880	12.8000	13.0000	14.7456	16.0000	16.3840
18.4320	19.2000	19.6608	20.0000		& sub multiple

Date :	May 2009	Revision No. : 1	Revision Date : 05-09
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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.

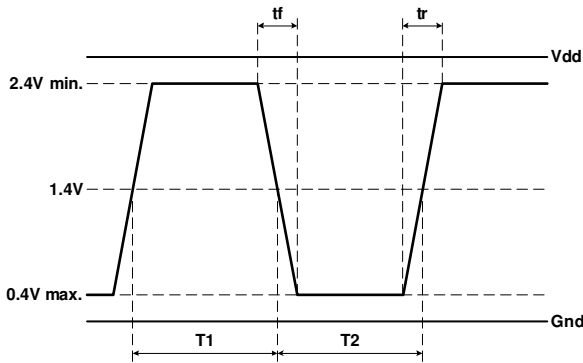
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	Mühlestrasse 14	Fax	+41 32 655 80 90
	CH-2540 Grenchen	Internet	www.microcrystal.ch
	Switzerland	Email	sales@microcrystal.ch

Application and Test Circuit:

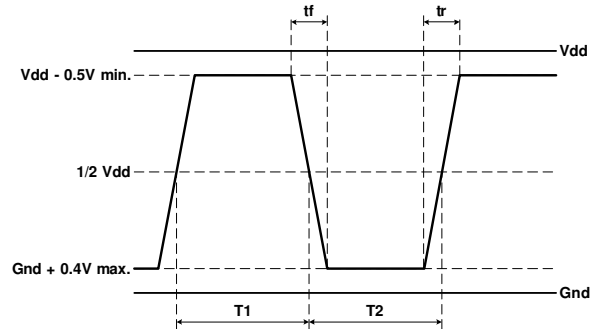


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



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

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