



# MCSO1F

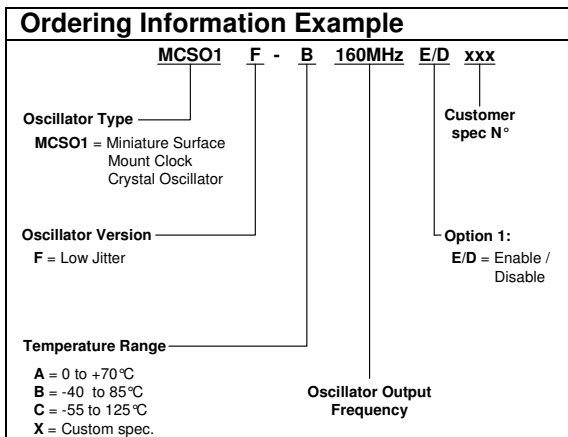
Miniature SMD Clock-Oscillator  
 Overall stability  $\pm 100\text{ppm}$   
 5V Power Supply 40 to 160MHz

<b>FREQUENCY STABILITY</b>	
OVER:	
OPERATING TEMP. RANGE:	See note 1
OVERALL STABILITY:	$< \pm 100\text{ppm}^*$
INCLUDING:	
<ul style="list-style-type: none"> <li>OVER OPERATING TEMPERATURE RANGE</li> <li>ADJUSTMENT @ 25°C</li> <li>LONG TERM AGING (10 YEARS)</li> <li>STABILITY OVER SUPPLY VOLTAGE <math>\pm 10\%</math></li> <li>STABILITY OVER LOAD (MIN. TO MAX.)</li> </ul>	
<b>POWER SUPPLY</b>	
SUPPLY VOLTAGE:	$V_{dd} = 5V \pm 10\%^*$
INPUT CURRENT:	$< 50\text{mA}^*$
<b>OUTPUT</b>	
OUTPUT SIGNAL:	AC-MOS compatible *
SYMMETRY:	40 / 60% (min.) @ $V_{dd} / 2^*$
RISE & FALL TIME:	$t_r < 3\text{ns}$ $t_f < 3\text{ns}^*$
LEVEL "0" & "1":	$< 0.4V$ $> V_{dd} - 0.5V$
START-UP TIME:	$< 5\text{ms}$
FAN OUT (LOAD):	10 TTL / LS *
JITTER:	$< 1\text{ps}$
<b>ENVIRONMENT</b>	
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)
<b>MISCELLANEOUS</b>	
* Customer's specification on request	

<b>Note 1: Operating Temperature Range</b>	
MCSO1F-A:	0 to +70 °C
MCSO1F-B:	-40 to +85 °C
MCSO1F-C:	-55 to +125 °C

<b>Option 1: Enable / Disable (on request)</b>	
See application circuit on page 2 for details	
<b>Pin 1:</b>	<b>Pin 3 (Fout)::</b>
Open	Clock
H	Clock
L	High Z

<b>Marking Example</b>			
<b>Micro Crystal</b>		<b>Micro Crystal</b>	
MCSO1F-B	E/D	Type	Option 1
160.000 MHz	09.40	Frequency	Date Code
○		○ (PIN 1)	



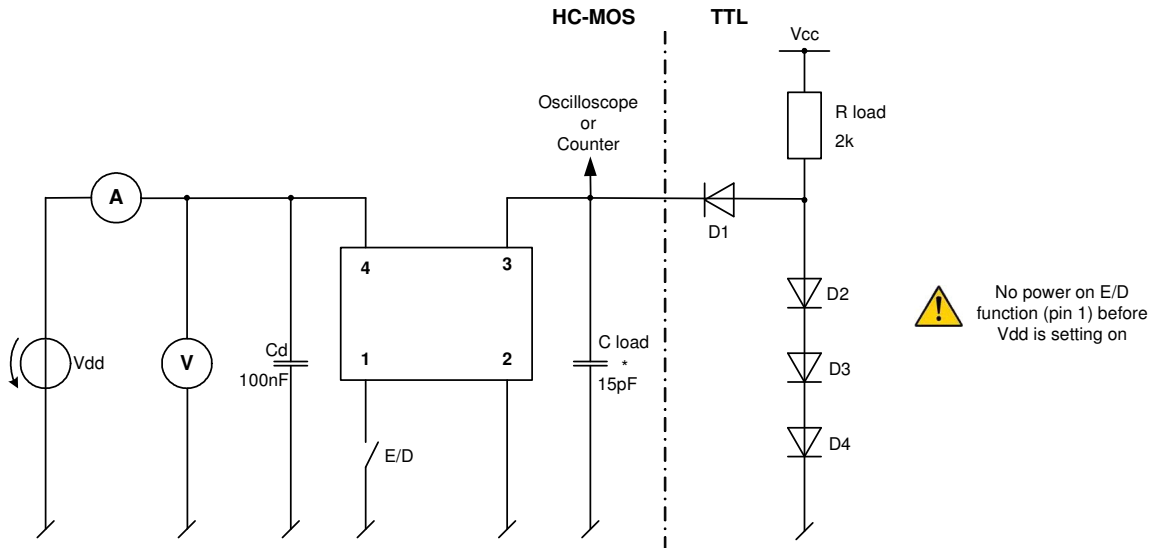
<b>STANDARD FREQUENCIES [MHz]</b>

Date :	June 2003	Revision No. :	4	Revision Date :	10-09
--------	-----------	----------------	---	-----------------	-------

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.

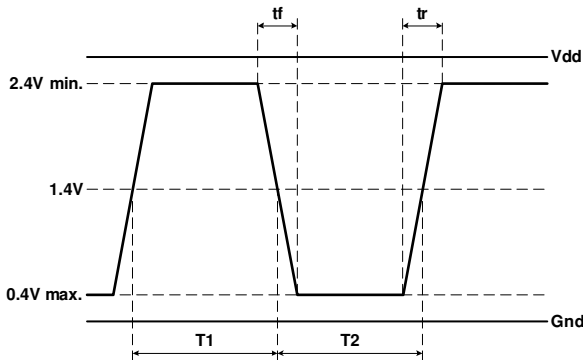
Headquarters:	Micro Crystal AG	Tel.	+41 32 655 82 82
	Mühlestrasse 14	Fax	+41 32 655 80 90
	CH-2540 Grenchen	Internet	www.microcrystal.ch
	Switzerland	Email	sales@microcrystal.ch

**Application and Test Circuit:**

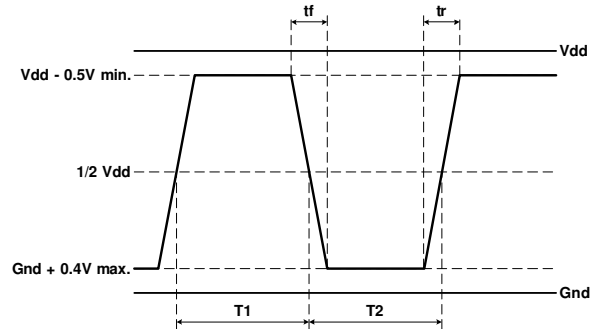


**Waveform Output:**

**Waveshape TTL**



**Waveshape HC-MOS**



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

Date :	June 2003	Revision No. : 4	Revision Date : 10-09
--------	-----------	------------------	-----------------------

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 AG 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