

FREQUENCY STABILITY

OVER:
OPERATING TEMP. RANGE : *see note 1*
OVERALL STABILITY: $< \pm 100$ ppm *
INCLUDING:
• OVER OPERATING TEMPERATURE RANGE
• ADJUSTMENT @ 25°C
• LONG TERM AGING 10 YEARS
• STABILITY OVER SUPPLY VOLTAGE $\pm 10\%$
• STABILITY OVER LOAD MIN. TO MAX.

POWER SUPPLY

SUPPLY VOLTAGE: $V_{dd} = 5 V \pm 10\% *$
INPUT CURRENT : < 15 mA *

OUTPUT

OUTPUT SIGNAL: *HC-MOS compatible **
SYMMETRY: $40 / 60 \%(\text{min.}) @ V_{dd} / 2 *$
RISE AND FALL TIME: $t_r < 7\text{ns}$ $t_f < 7\text{ns} *$
LEVEL „0“ AND „1“: $< 0.4 V$ $> V_{dd} - 0.5 V$
START UP TIME: < 5 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 2000 Hz / 10 g
SHOCKS: 5000 g, 0.3 ms, $\frac{1}{2}$ sine
PACKAGE: Ceramic
PACKAGE DIMENSIONS: $8.0 \times 3.7 \times 2.0$ mm
(see packaging info)
PROCESSING: *Reflow soldering 260°C / 10 s max. (see packaging info)*

MISCELLANEOUS

* *Customer's specification on request*

NOTE 1: OPERATING TEMP. 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)

PIN 1:	PIN 3: (Fout)
OPEN	Clock
H	Clock
L	High Z

MARKING EXAMPLE

MCSO1-B	E/D	Type	Option 1
20.000 MHz	01.25	Frequency	Date Code
O		(PIN 1)	

ORDERING INFORMATION EXAMPLE

M C S O 1 - B 20 MHz E/D x x x

Oscillator Type: MCSO1 = Miniature Surface mount clock Crystal Oscillator

Oscillator Version: B

Temperature Range: A = 0 to +70°C, B = -40 to +85°C, C = -55 to +125°C, X = custom spec.

Oscillator output frequency: 20 MHz

N° of customer spec.: x x x

Option 1: E/D = enable / disable

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: June 2003 Revision No.: 6

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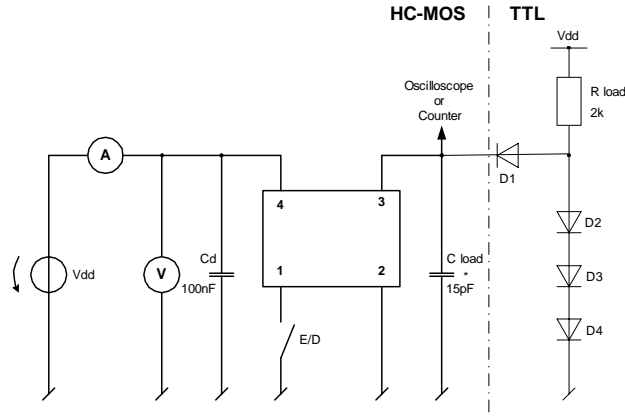
In accordance with our policy of continuous development and improvement, we reserve the right to modify the design or the specifications of our products without prior notice.

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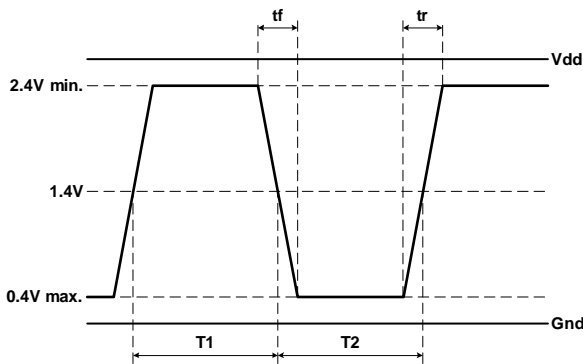
Application and Test Circuit:

Enable / Disable

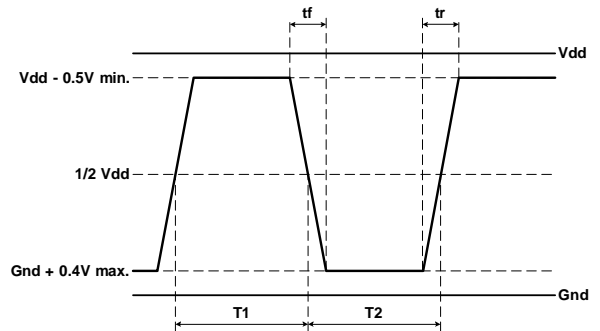


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



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

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