

FREQUENCY STABILITY

OVER:

OPERATING TEMP. RANGE: *See note 1*

OVERALL STABILITY: $< \pm 50\text{ppm}^*$

INCLUDING:

- OVER OPERATING TEMPERATURE RANGE
- ADJUSTMENT @ 25°C
- LONG TERM AGING (1 YEARS)
- 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): $10\text{ TTL} / \text{LS}^*$

ENVIRONMENT

OPERABLE TEMP. RANGE: $-55\text{ to }+125^\circ\text{C}$

STORAGE TEMP. RANGE: $-65\text{ to }+125^\circ\text{C}$

VIBRATIONS: $10\text{ to }2000\text{Hz} / 10g$

SHOCKS: $5000g, 0.3\text{ms}, \frac{1}{2}\text{ sine}$

PACKAGE: Ceramic

PACKAGE DIMENSIONS: $14.1 \times 9.3 \times 2.4\text{mm}$

(see packaging info)

PROCESSING: *Reflow soldering $260^\circ\text{C} / 10\text{s max.}$*

(see packaging info)

MISCELLANEOUS

* *Customer's specification on request*

Note 1: Operating Temperature Range

MCSOT-A: $0\text{ to }+70^\circ\text{C}$

MCSOT-B: $-40\text{ to }+85^\circ\text{C}$

MCSOT-C: $-55\text{ to }+125^\circ\text{C}$

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 $f < 500\text{kHz}$	

Option 2: J / Leads (on request)

With tinned J / Leads pins
Height: 3.8mm included J / Leads

Marking Example

	
MCSOT-B	E/D
20.000 MHz	05.44
○	○ (PIN 1)
Type	Option 1
Frequency	Date Code

Ordering Information Example

MCSO	T	B	20MHz	E/D	J/L	xxx
Oscillator Type	Oscillator Version	Temperature Range	Oscillator Output Frequency		Option 2:	Customer spec N°
MCSO = Surface Mount Clock Crystal Oscillator	T = Tight Tolerance	A = 0 to +70°C B = -40 to 85°C C = -55 to 125°C X = Custom spec.			J/L = J-Leads	
					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. : 7 Revision Date : 11-05

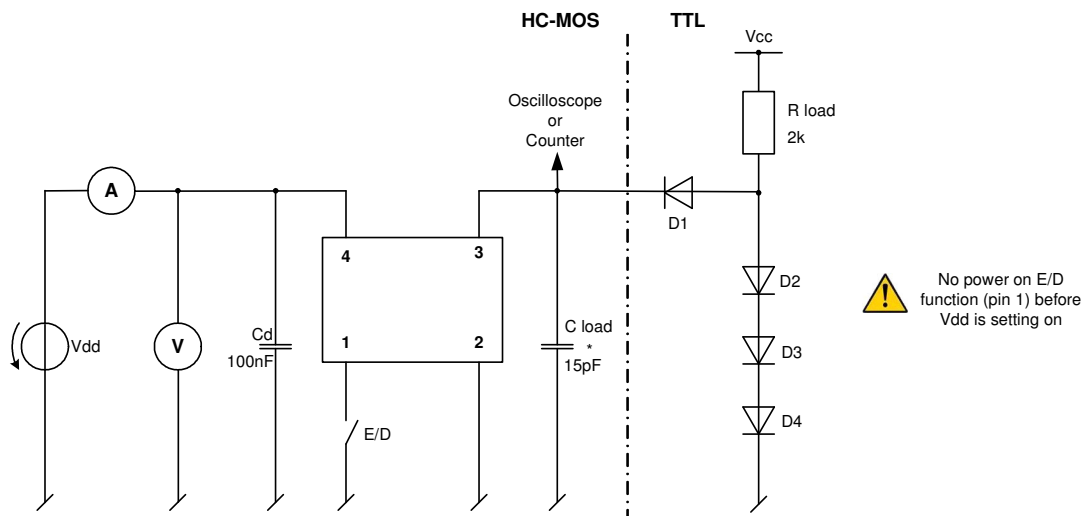
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In accordance with our policy of continuous development and improvement, we reserve the right to modify the design or the specifications of our products without prior notice.

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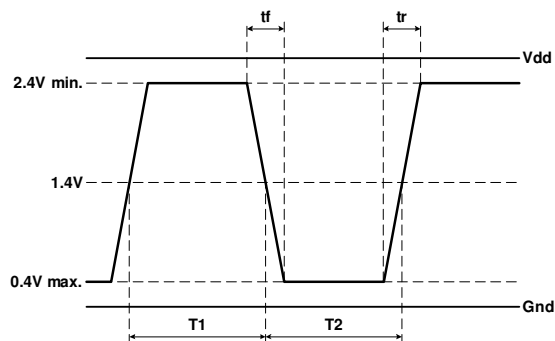
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Application and Test Circuit:

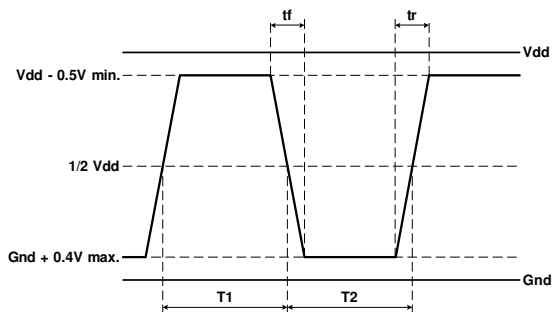


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



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

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