MICRO CRYSTAL SWITZERLAND

MCSO1FV Miniature SMD Clock-Oscillator

Overall stability ± 100ppm

3.3V Power Supply 40 to 160MHz

FREQUENCY STABILITY

OVER:

OPERATING TEMP. RANGE:	***See note 1***
OVERALL STABILITY:	*< ±100ppm **

INCLUDING:

- **OVER OPERATING TEMPERATURE RANGE**
- **ADJUSTMENT @ 25°C**
- **LONG TERM AGING (10 YEARS)**
- **STABILITY OVER SUPPLY VOLTAGE ±5%**
- **STABILITY OVER LOAD (MIN. TO MAX.)**

POWER SUPPLY

SUPPLY VOLTAGE:	*Vdd = 3.3V ±10%* *****
INPUT CURRENT:	*< 30mA**

OUTPUT

OUTPUT SIGNAL:	*AC-MOS compatible **
SYMMETRY:	*40 / 60% (min.) @ Vdd / 2 **
RISE & FALL TIME:	*tr < 3ns tf < 3ns **
LEVEL "0" & "1":	*< 0.4V > Vdd – 0.5V*
START-UP TIME:	*< 5ms*
FAN OUT (LOAD):	*10 TTL / LS **
JITTER:	*< 1ps*

ENVIRONMENT

OPERABLE TEMP. RANGE:	*-55 to +125°C*
STORAGE TEMP. RANGE:	*-65 to +125°C*
VIBRATIONS:	*10 to 2000Hz / 10g*
SHOCKS:	*5000g, 0.3ms, ½ 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

MCSO1FV-A:	*0 to +70 °C*
MCSO1FV-B:	*-40 to +85 °C*
MCSO1FV-C:	*-55 to +125 °C*

Option 1: Enable / Disable (on request)

See application circuit on page 2 for details

Pin 1:	Pin 3 (Fout)::
Open	Clock
H	Clock
L	High Z

Marking Example

MCSO1FV-B E/D
160.000 MHz 05.44
○

Type *Option 1*
Frequency *Date Code*
○ *(PIN 1)*

Ordering Information Example

MCSO1 FV - B 160MHz E/D xxx

Oscillator Type
MCSO1 = Miniature Surface Mount Clock Crystal Oscillator

Oscillator Version
F = Low Jitter
V = Low Power Voltage

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

Oscillator Output Frequency

Customer spec N°

Option 1:
E/D = Enable / Disable

STANDARD FREQUENCIES [MHz]

Preliminary

Date :	June 2003		Revision No. : 3	Revision Date : 11-05

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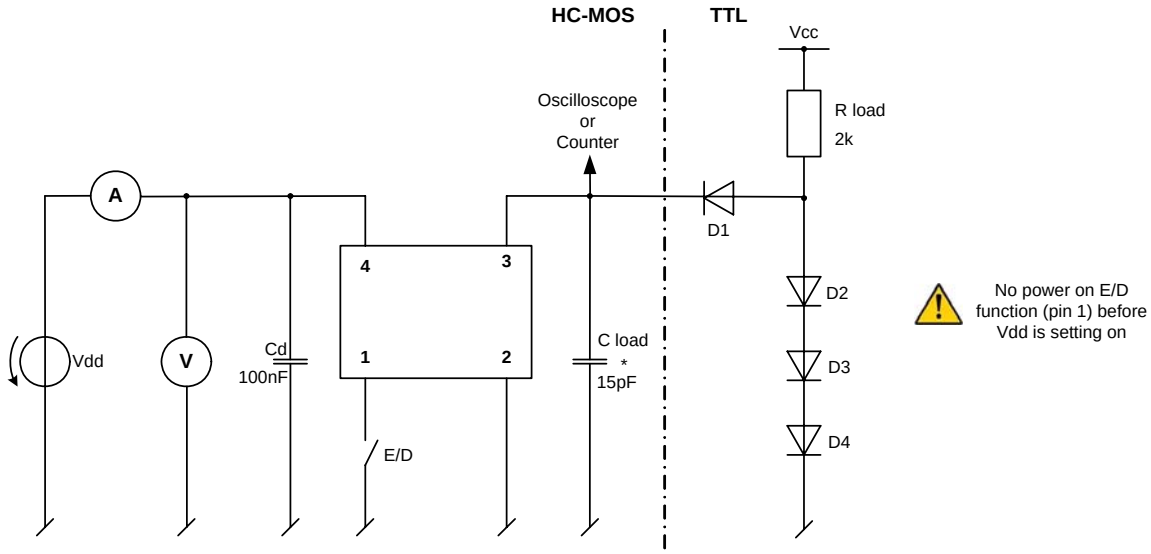
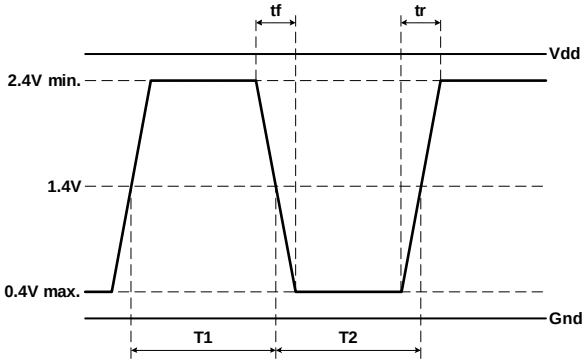
Application and Test Circuit:

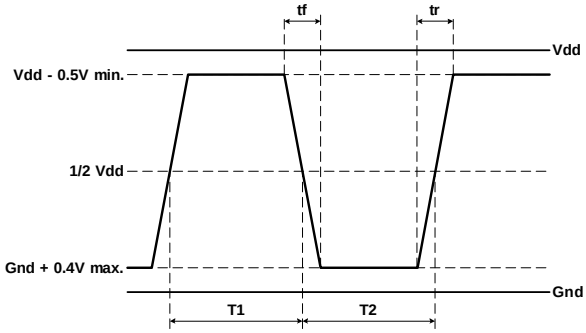


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



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

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