



MCSO1EL

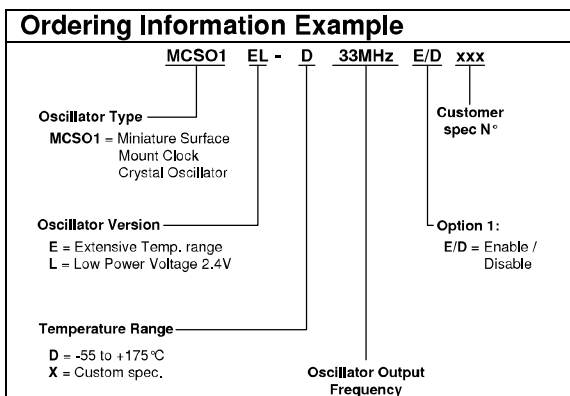
Miniature SMD Clock-Oscillator
 Overall stability $\pm 300\text{ppm}$ Works up to 175°C
 2.4V Power Supply 32.768KHz

FREQUENCY STABILITY	
OVER:	
OPERATING TEMP. RANGE:	See note 1
OVERALL STABILITY:	$< \pm 300\text{ppm}^*$
INCLUDING:	
•	OVER OPERATING TEMPERATURE RANGE
•	ADJUSTMENT @ 25°C
•	AGING (24 HOURS @ 175°C)
•	STABILITY OVER SUPPLY VOLTAGE $\pm 10\%$
•	STABILITY OVER LOAD (MIN. TO MAX.)
POWER SUPPLY	
SUPPLY VOLTAGE:	$V_{dd} = 2.4\text{V} \pm 5\%$
INPUT CURRENT:	$< 300\mu\text{A}$
OUTPUT	
OUTPUT SIGNAL:	HC-MOS compatible
SYMMETRY:	40 / 60% (min.) @ $V_{dd} / 2^*$
RISE & FALL TIME:	$t_r < 15\text{ns}$ $t_f < 15\text{ns}^*$
LEVEL "0" & "1":	$< 0.4\text{V}$ $> V_{dd} - 0.5\text{V}$
START-UP TIME:	$< 5\text{ms}$
FAN OUT (LOAD):	25pF max^*
ENVIRONMENT	
OPERABLE TEMP. RANGE:	-55 to $+175^\circ\text{C}$ (during 72 hours)
STORAGE TEMP. RANGE:	-65 to $+125^\circ\text{C}$
VIBRATIONS:	10 to 2000Hz / 10g
SHOCKS:	5000g, 0.3ms, $\frac{1}{2}$ sine
PACKAGE:	Ceramic
PACKAGE DIMENSIONS:	$8.0 \times 3.7 \times 2.0\text{mm}$ (see packaging info)
PROCESSING:	Reflow soldering 260°C / 10s max. (see packaging info)
MISCELLANEOUS	
Supply voltage 3.3 and 5V available	

Note 1: Operating Temperature Range	
MCSO1EL-D:	-55 to $+175^\circ\text{C}$

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			
Micro Crystal		Micro Crystal	
MCSO1EL-D	E/D	Type	Option 1
32.768 KHz	09.12	Frequency	Date Code
O		O (PIN 1)	



PRELIMINARY

Date :	May 2007	Revision No. : 1	Revision Date : 10.09
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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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