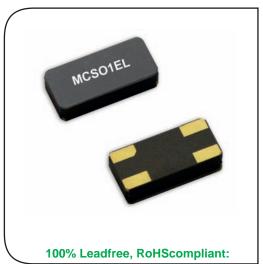


MCSO1EL very low consumption 32.768 kHz T range up to 200°C



DIMENSIONS Package: Recommended Solder Pad: Bottom view 7,86 3,18 2,54 2,2 3 1,16 3,70 2 1 1.52 3,60 3 pin 1 E/D pin 2 GND pin 3 Fout pin 4 Vdd All dimensions in mm typical

SMT Clock oscillator in ceramic package

Fundamental quartz mode frequency High shock and vibration resistance Wide temperature range Low aging Ultra low internal MSL Very fast start-up Excellent solderability Swiss made quality Customer specification on request

Frequency stability included 1000h at Tmax

ELECTRICAL
CHARACTERISTICS AT +25°C

DESCRIPTION:

This SMD oscillator in ceramic package has been specially designed for surface mount using infrared, vapor phase or epoxy techniques.

APPLICATIONS:

- Downhole and Well drilling equipments
- Avionics
- Airbone equipments
- Geothermal equipments
- Fire fighter equipments

The MCSO1's are supplied on trays (91 pcs / tray)
For pick-and-place equipment, the parts are
available in 16mm tapes with 250 parts min
1000 parts max

Frequency stability Over temperature range C = -55 to +125°C (see ordering info) Including 2)*	ΔF/F	≤± 100	ppm
Frequency stability Over temperature range E = -55 to +150°C (see ordering info) Including 2)*	ΔF/F	≤± 150	ppm
Frequency stability Over temperature range D = -55 to +175°C (see ordering info) Including 2)*	ΔF/F	≤±300	ppm
Frequency stability Over temperature range G = -55 to +200°C (see ordering info) Including 2)* 3)*	ΔF/F	≤ ± 400	ppm
Supply voltage ± 5% 1)*	Vdd	2.5 / 3.3 / 5	V
Input current	Idd	see table 1	
Output signal		HC-MOS compatible	
Symmetry at Vdd/2		40 / 60	%
Rise & fall time (load 15pf 20% to 80%)		25	ns
Level "0" & "1"		<0.4>Vdd-0.5	V
Start-up time	t	<5	ms
Load min / max		3/27	pF

^{* 1)} C = 47nF ceramic must be connected between GND & Vdd Operable over 2.3 to 5.5V

^{* 2)} adjustment at +25°C, long term aging 1000h at Tmax ordered over supply voltage ±5% and over load min to max

^{* 3)} Only available with Supply voltage 5V

TABLE 1: Idd (With load 10pF)

Frequency	F=32 kHz
W=Vdd = 2.5V	< 100µA
V=Vdd = 3.3V	< 110µA
blank=Vdd = 5V	< 120µA

STANDARD FREQUENCIES:

Frequency «kHz»		
	32.768	
Other frequencies from up to 50 kHz on request		

ENVIRONMENTAL CHARACTERISTICS:

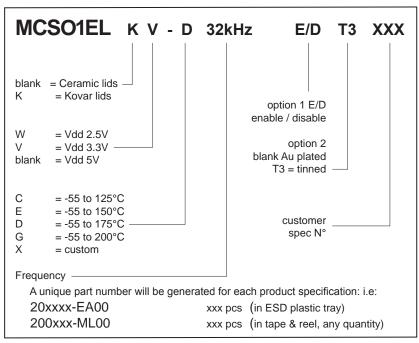
Storage temp. range	-65 to +125°C
Vibration resistance	10 to 2000Hz / 40g
Shocks resistance	10000g / 0.3ms / ½ sine

TERMINATIONS AND PROCESSING:

D 6	00000 / 40	
Reflow soldering	+260°C / 10s max	
Package	Ceramic 8 x 4 x 2.2mm	
Lids (on request)	Kovar	
Lids (standard)	Ceramic (Kovar on version G)	
Terminations option T3 on request (not available on G temperature range)	with tinned Ag/Cu/Zn	
E/D option 1 on request Reaction time < 5mS	$\begin{array}{ccc} \text{Pin 1 open} \rightarrow \text{Pin 3} & \text{Clock} \\ & \text{H} & \rightarrow & \text{Clock} \\ & \text{L} & \rightarrow & \text{Low} \end{array}$	

- No power E/D function (pin 1) before Vdd is setting on
- Disable option (consumption ≤5µA).

PRODUCT DESCRIPTION AND ORDERING INFORMATION:



All specifications subject to change without notice.









