

CSO2F family package 5×3.2 mm **Low Jitter** From 10 kHz up to 225 MHz



SMT Clock oscillator in ceramic Fundamental quartz mode frequency High shock and vibration resistance

ELECTRICAL CHARACTERISTICS AT +25°C

Customer specification on request

Wide temperature range

Ultra low internal MSL

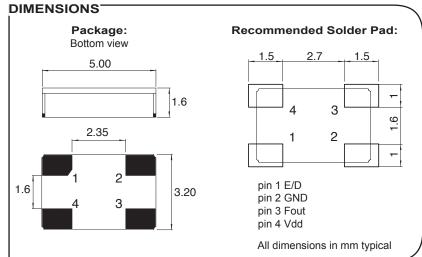
Excellent solderability

Swiss made quality

Very fast start-up

package

Low aging



DESCRIPTION:

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

APPLICATIONS:

- Avionics
- Airbone equipments
- Remote control
- Security application
- Radio Transceiver
- Microprocessor clocks

The MCSO2's are supplied on trays (128 pcs / tray) For pick-and-place equipment, the parts are available in 12mm tapes with 250 parts min 1000 parts min

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Frequency stability Over temperature range (see ordering info) Including:adjustment at +25°C long term aging 10 years over supply voltage ±5% over load min to max	ΔF/F	≤±100	ppm
Frequency stability version T Over temperature range (see ordering info) Including: adjustment at +25°C long term aging 1 year over supply voltage ±5% over load min to max	ΔF/F	≤ ± 50	ppm
Supply voltage ± 5% 1)* Version 1.2V available on request	Vdd	1.8 / 2.5 / 3.3	V
Input current	ldd	see table 1	
Output signal		HC-MOS compatible	
Symmetry at Vdd/2		40 / 60	%
Rise & fall time ≤ 20MHz For F=32.768 kHz rise & fall time ≤ 150ns (load 15pf 20% to 80%)		≤7	ns
Rise & fall time ≥ 20MHz (load 15pf 10% to 90%)		≤3	ns
Level "0" & "1"		<0.4>Vdd-0.5	V
Start-up time	t	<5	ms
Load min / max		3/47	pF
Jitter ≤ 20MHz one sigma		< 2rms	ps
Jitter > 20MHz one sigma		< 10rms	ps

^{* 1)} C = 47nF ceramic must be connected between GND & Vdd

TABLE 1: Idd (Without load)

Frequency	Fz 32 kHz	F=< 10MHz	≤ 20MHz	>20 to 225MHz
W= Vdd = 2.5V	< 300µA	< 2mA	< 3mA	< 25mA
V= Vdd = 3.3V	< 1mA	< 4mA	< 5mA	< 30mA

STANDARD FREQUENCIES:

Frequency «MHz»						
3.6864	4	8	10	12	12.8	14.7456
16	20	24	40	48	120	
Other frequencies from 10 kHz up to 225 MHz on request						

ENVIRONMENTAL CHARACTERISTICS:

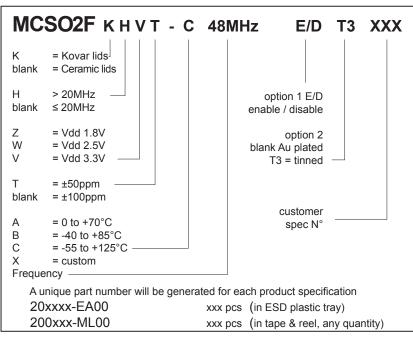
Storage temp. range	-65 to +125°C
Vibration resistance (survival)	10 to 2000Hz / 50g
Shocks resistance (survival)	5000g / 0.3ms / ½ sine

TERMINATIONS AND PROCESSING:

	1
Reflow soldering	+260°C / 10s max
Package	Ceramic 5 x 3.2 x 1.6
Lids standard (blank) Lids on request (K)	Ceramic Kovar
Terminations option T3 on request	with tinned Ag/Cu/Sn
E/D option 1 on request Reaction time < 1µs	$\begin{array}{ccc} \text{Pin 1 open} \rightarrow \text{Pin 3} & \text{Clock} \\ & \text{H} & \rightarrow & \text{Clock} \\ & \text{L} & \rightarrow & \text{Low} \end{array}$

- No power E/D function (pin 1) before Vdd is setting on
- E/D option on request (very low consumption in disable mode).

PRODUCT DESCRIPTION AND ORDERING INFORMATION:



All specifications subject to change without notice.

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