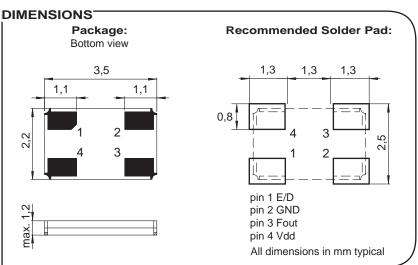


# MCSO6 family package 3.5×2.2 mm From 10 kHz up to 155 MHz





**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** 

## **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 MCSO6's are supplied on trays (208 pcs / tray)

For pick-and-place equipment, the parts are available in 12mm tapes with 250 parts min

1000 parts min

ELECTRICAL
CHARACTERISTICS AT +25°C

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)*	Vdd	2.5 / 3.3 / 5	V
Input current	ldd	see table 1	
Output signal		HC-MOS compatible	
Symmetry at Vdd/2		40 / 60	%
Rise & fall time For F=32.768 kHz rise & fall time ≤ 150ns (load 15pf 20% to 80%)		≤7	ns
Level "0" & "1"		<0.4>Vdd-0.5	V
Start-up time	t	<5	ms
Load min / max		3/47	pF

TABLE 1: Idd (Without load)

	Frequency	F= 32 kHz F=< 10MHz ≤ 20MHz		>20 to 155MHz	
W	=Vdd = 2.5V	< 300µA	< 2mA	< 3mA	< 25mA
V	=Vdd = 3.3V	< 1mA	< 4mA	< 5mA	< 30mA
blar	hk = Vdd = 5V	< 2mA	< 6mA	< 7mA	< 40mA

#### **STANDARD FREQUENCIES:**

**ENVIRONMENTAL** 

**CHARACTERISTICS:** 

**TERMINATIONS AND PROCESSING:** 

**PRODUCT DESCRIPTION AND** 

**ORDERING INFORMATION:** 

Frequency «MHz»						
4	8	10	12	16	20	24
40	50	60				
Other frequencies from 10 kHz up to 155 MHz on request						

#### -65 to +125°C Storage temp. range 10 to 2000Hz / 20g Vibration resistance Shocks resistance 5000g / 0.3ms / 1/2 sine

Reflow soldering	+260°C / 10s max		
Package	Ceramic 3.5 x 2.2 x 1.2mm		
Lids	Ceramic		
Terminations option T3 on request	with tinned Ag/Cu/Zn		
E/D option 1 on request Reaction time < 1µs	$\begin{array}{ccc} \mbox{Pin 1 open} \rightarrow \mbox{Pin 3 Clock} \\ \mbox{H} \rightarrow & \mbox{Clock} \\ \mbox{L} \rightarrow & \mbox{Low} \end{array}$		

- No power E/D function (pin 1) before Vdd is setting on

- E/D option not available for F < 500 kHz

- E/D option on request (very low consumption in disable mode).

