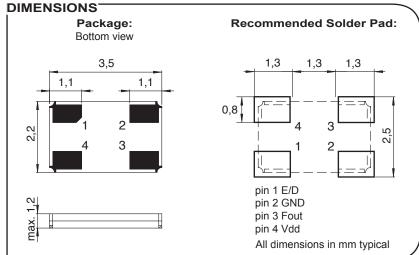


# MCSO6 family package 3.5×2.2 mm From 10 kHz up to 155 MHz





## 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** 

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:**

- 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

Prequency 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
٧	=Vdd = 3.3V	< 1mA	< 4mA	< 5mA	< 30mA
bla	ink=Vdd = 5V	< 2mA	< 6mA	< 7mA	< 40mA

#### **STANDARD FREQUENCIES:**

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

ENVIRONMENTAL CHARACTERISTICS:

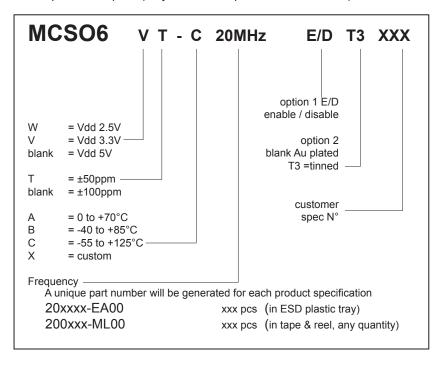
Storage temp. range	-65 to +125°C
Vibration resistance	10 to 2000Hz / 20g
Shocks resistance	5000g / 0.3ms / ½ sine

TERMINATIONS AND PROCESSING:

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	$\begin{array}{ccc} \text{Pin 1 open} \rightarrow \text{Pin 3} & \text{Clock} \\ & \text{H} & \rightarrow & \text{Clock} \\ & \text{L} & \rightarrow & \text{Low} \end{array}$		

- No power E/D function (pin 1) before Vdd is setting on
- E/D option not available for F < 500 kHz
- E/D option on request (very low consumption in disable mode).

## PRODUCT DESCRIPTION AND ORDERING INFORMATION:



All specifications subject to change without notice.

