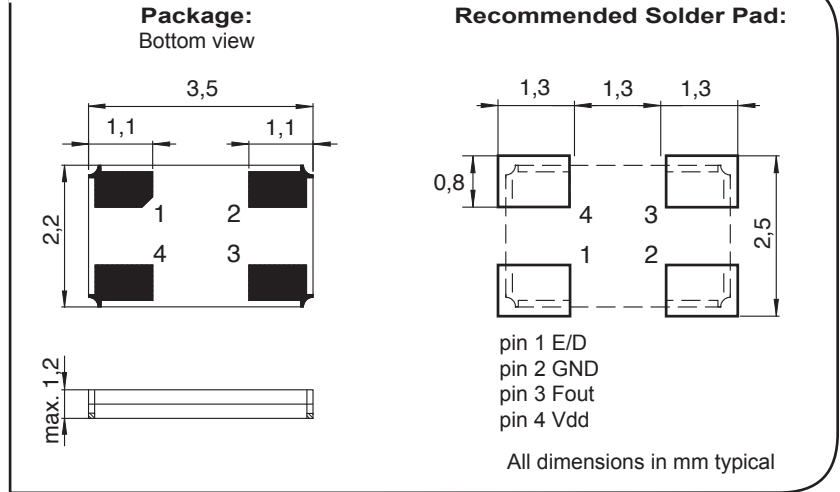




**DIMENSIONS**



**SMT Clock oscillator in ceramic package**  
**Fundamental quartz mode frequency**  
**High shock and vibration resistance**  
**Wide temperature range**  
**Low aging**  
**Ultra low 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**

<b>Frequency stability</b> 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	$\Delta F/F$	$\leq \pm 100$	ppm
<b>Frequency stability version T</b> 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	$\Delta F/F$	$\leq \pm 50$	ppm
Supply voltage ± 5%	Vdd	2.5 / 3.3	V
Input current	Idd	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
Jitter ≤ 20MHz one sigma		< 2rms	ps
Jitter > 20MHz one sigma		< 10rms	ps

\* 1) C = 47nF ceramic must be connected between GND & Vdd

**TABLE 1: I<sub>dd</sub>**  
(Without load)

Frequency	F=32 kHz	F=< 10MHz	≤ 20MHz	>20 to 155MHz
W=V <sub>dd</sub> = 2.5V	< 300µA	< 2mA	< 3mA	< 25mA
V=V <sub>dd</sub> = 3.3V	< 1mA	< 4mA	< 5mA	< 30mA

**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 no 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
Reaction time < 1µs E/D option 1 on request	Pin 1 open → Pin 3 Clock H → Clock L → Low

- No power E/D function (pin 1) before V<sub>dd</sub> 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:**

<b>MCS06F</b>	<b>V T - C 48MHz</b>	<b>E/D T3 XXX</b>
<p>W = V<sub>dd</sub> 2.5V V = V<sub>dd</sub> 3.3V</p> <p>T = ±50ppm blank = ±100ppm</p> <p>A = 0 to +70°C B = -40 to +85°C C = -55 to +125°C X = custom</p> <p>Frequency _____</p> <p>A unique part number will be generated for each product specification                  20xxx-EA00 xxx pcs (in ESD plastic tray)                  200xxx-ML00 xxx pcs (in tape &amp; reel, any quantity)</p>	<p>option 1 E/D enable / disable</p> <p>option 2 blank Au plated T3 = tinned</p> <p>customer spec N°</p>	

All specifications subject to change without notice.



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