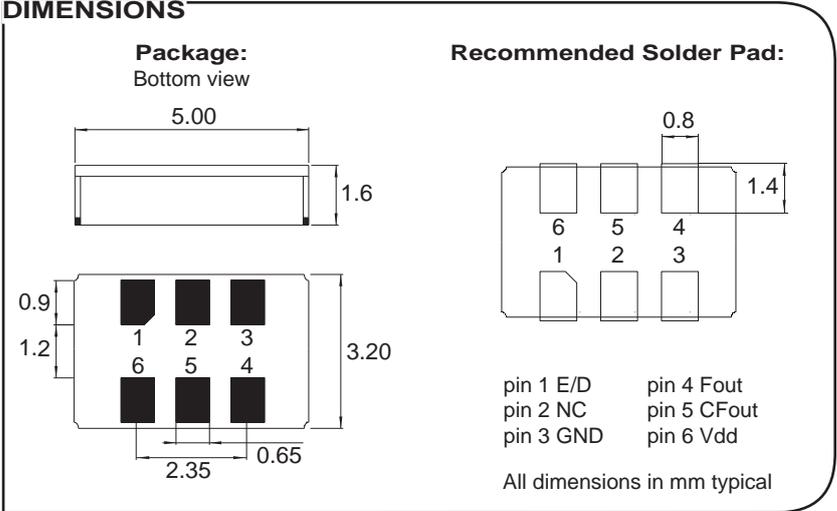


# MCSO2L family package 5x3.2 mm

From 40 MHz to 130 MHz LVDS Output



- SMT LVDS 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
  - Airborne equipments
  - Remote control
  - Security application
  - Radio Transceiver
  - Microprocessor clocks

The MCSO2L'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

**ELECTRICAL CHARACTERISTICS AT +25°C**

<b>Frequency stability (standard)</b> Over temperature range (see ordering info) Including: adjustment at 25°C long term aging 10 years over supply voltage ±5%	$\Delta F/F$	$\leq \pm 100$	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%	$\Delta F/F$	$\leq \pm 50$	ppm
Supply voltage ± 5%	1)*	Vdd	2.5 / 3.3 V
Input current		Idd	see table 1
Output signal (load 100 ohm)			LVDS
Symmetry (max)			45 / 55 %
Rise & fall time (20% to 80%)			<1 ns
Level Logic low (Typ/min)			1.1 / 0.9 V
Level Logic high (Typ/max)			1.4 / 1.6 V
Start-up time	t		<5 ms
Jitter RMS (1KHz to 1MHz)			<0.3 ps
Phase noise typical at 100MHz			
Static conditions	10Hz		-70 dBc/Hz
BW = 1Hz	100Hz		-100
	1 kHz		-125
	10 kHz		-145
	100kHz		-150

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

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

Frequency	F= 40MHz	100MHz	130MHz
W =V <sub>dd</sub> = 2.5V	< 5mA	< 10mA	< 20mA
V =V <sub>dd</sub> = 3.3V	< 10mA	< 15mA	< 25mA

**STANDARD FREQUENCIES:**

Frequency «MHz»			
40	80	100	128
Other frequencies 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 (peak)	+260°C / 10s max
Package	Ceramic 5 x 3.2 x 1.6mm
Lids	Ceramic
Terminations option T3 on request	with tinned Ag/Cu/Zn
E/D option 1 on request Reaction time < 1µs	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

**PRODUCT DESCRIPTION AND ORDERING INFORMATION:**

**MCSO2L V T - C 100MHz E/D T3 XXX**

<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>option 1 E/D enable / disable</p> <p>option 2 blank Au plated T3 = tinned</p> <p>customer spec N°</p>
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A unique part number will be generated for each product specification

20xxxx-EA00	xxx pcs (in ESD plastic tray)
200xxx-ML00	xxx pcs (in tape & reel, any quantity)

All specifications subject to change without notice.

