MICRO CRYSTAL SWITZERLAND

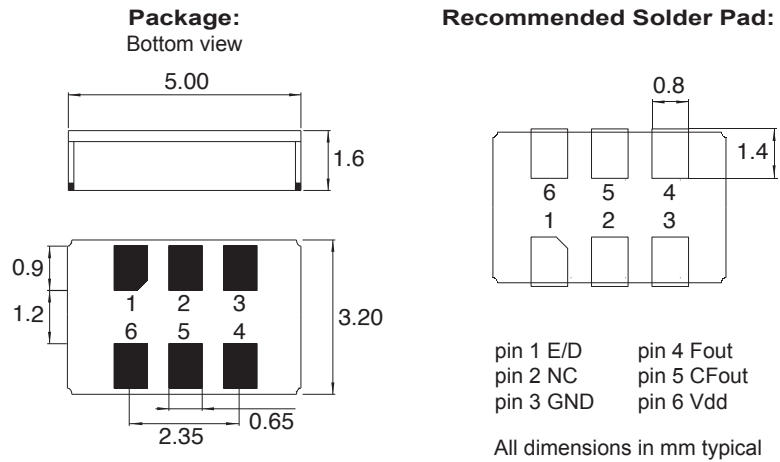# MCSO2L family package 5×3.2 mm
From 40 MHz to 130 MHz LVDS Output

100% Leadfree, RoHScompliant:

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

DIMENSIONS

Package: Bottom view

5.00

1.6

0.9
1.2

| 1 | 2 | 3 |
| 6 | 5 | 4 |

3.20

2.35   0.65

Recommended Solder Pad:

0.8

1.4

| 6 | 5 | 4 |
| 1 | 2 | 3 |

pin 1 E/D   pin 4 Fout
pin 2 NC   pin 5 CFout
pin 3 GND   pin 6 Vdd

All dimensions in mm typical

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

Frequency stability (standard) Over temperature range (see ordering info) Including: adjustment at 25°C long term aging 10 years over supply voltage ±5%	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%	ΔF/F	≤ ± 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 BW = 1Hz 100Hz 1 kHz 10 kHz 100kHz		-70 -100 -125 -145 -150	dBc/ Hz

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

TABLE 1: Idd
(Without load)

Frequency		F= 40MHz	100MHz	130MHz
W	=Vdd = 2.5V	< 5mA	< 10mA	< 20mA
V	=Vdd = 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 (survival)	10 to 2000Hz / 50g
Shocks resistance (survival)	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/Sn
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 Vdd is setting on

PRODUCT DESCRIPTION AND ORDERING INFORMATION:

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

W   = Vdd 2.5V
V   = Vdd 3.3V

option 1 E/D
enable / disable

T   = ±50ppm
Blank = ±100ppm

option 2
blank Au plated
T3 = tinned

A   = 0 to 70°C
B   = -40 to 85°C
C   = -55 to 125°C
X   = custom

customer
spec N°

Frequency

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.