MICRO CRYSTAL SWITZERLAND

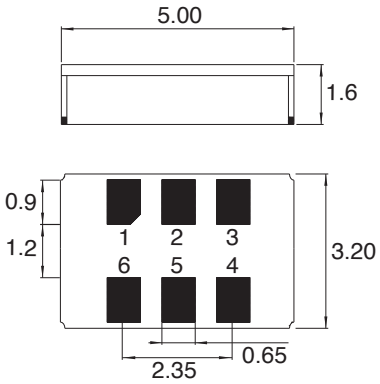
MCSO2L family package 5×3.2 mm

From 40 MHz to 130 MHz LVDS Output

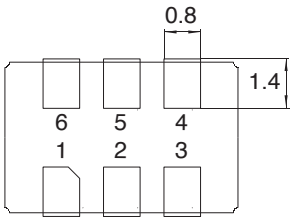
100% Leadfree, RoHScompliant:

DIMENSIONS

Package:
Bottom view



Recommended Solder Pad:



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

All dimensions in mm typical

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

Frequency stability (standard) Over temperature range (see orderding 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 standard (blank) Lids on request (K)	Ceramic Kovar
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 K V T - C 100MHz E/D T3 XXX

K = Kovar lids
blank = Ceramic lids

W = Vdd 2.5V
V = Vdd 3.3V

T = ±50ppm
Blank = ±100ppm

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

Frequency

option 1 E/D
enable / disable

option 2
blank Au plated
T3 = tinned

customer
spec N°

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.

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