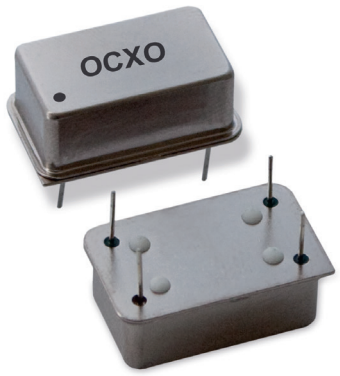
MICRO CRYSTAL SWITZERLAND

OCXO family package DIL 14

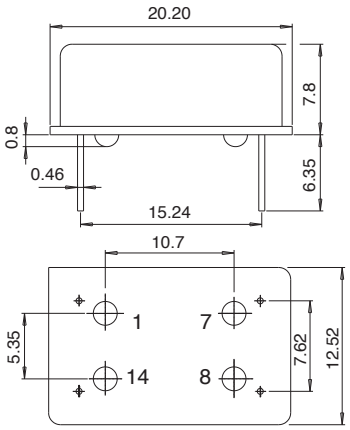
HC-MOS output from 10 kHz up to 54 MHz



RoHScompliant:

DIMENSIONS

Package:



Pin out

Pin 1 = Voltage control
Pin 7 = GND
Pin 8 = Fout
Pin 14 = Vdd

All dimensions in mm typical

Oven control quartz crystal oscillator
Fundamental mode frequency
High shock and vibration resistance
Wide temperature range
Low aging
Customer specification on request
Very fast warm up
Low power consumption
Swiss made quality

DESCRIPTION:

This DIL 14 package has been specially designed for the applications:

- Digital switching
- Telecom transmission
- Sonet / SDH / DWDM / FDM/36 / WIMAX
- Airbone equipments
- Battery operated systems
- Instrumentation
- Radio Transceiver

The OCXO are supplied on trays (50 pcs/tray).

ELECTRICAL CHARACTERISTICS AT 25°C

Frequency versus temperature A: 0 to +60°C B: -20 to +70°C C: -40 to +85°C E: -55 to +85°C	ΔF/F	see table 1 (without air flow)			
Frequency long term aging **1)** long term aging 10 years long term aging 1st year	ΔF/F	< ± 3 ≤ ± 0.5			ppm
Frequency control range	Vc	≥ ± 3 (see table 3)			ppm
Supply voltage	Vdd	3.3 / 5 / 12			V
Input current	Idd	see table 2			
Output signal		HC MOS compatible			
Symmetry at Vdd/2		40 / 60			%
Rise & fall time (without load)		≤7			ns
Level "0" & "1"		<0.4> Vcc-0.5			V
Start-up time	t	<5			ms
Load min / max		3/47			pF
Frequency stability versus load ± 10%	ΔF/F	≤ ± 10			ppb
Warm-up within ± 0.1 ppm at 25°C	Vdd	3.3	5	12	V
	t	≤ 120	≤ 60	≤ 30	s
Stability versus Vdd	ΔF/F	< ± 0.1			ppm
Short term stability 0.1 to 30s 5E-11 typ at 1s	Tau	< 5			E-10
Phase noise typical at 10 MHz Static conditions		3.3V / 5V	12V		dBc/ Hz
BW = 1Hz 10Hz 100Hz 1 kHz 10 kHz		-100 -130 -140 -145	-90 -120 -130 -135		

1) <± 1 E-9 / day after 30 days operating

TABLE 1: Vdd = 3.3V

Operating Temperature range	Vdd = 3.3V ± 0.15V	
	Version standard	Version T high stability
A = 0 to +60°C	≤ ± 200 ppb	≤ ± 75 ppb
B = -20 to +70°C	≤ ± 300 ppb	≤ ± 150 ppb
C = -40 to +85°C	≤ ± 500 ppb	≤ ± 250 ppb

TABLE 1: Vdd = 5V

Operating Temperature range	Vdd = 5V ± 0.2V	
	Version standard	Version T high stability
A = 0 to +60°C	≤ ± 200 ppb	≤ ± 75 ppb
B = -20 to +70°C	≤ ± 300 ppb	≤ ± 150 ppb
C = -40 to +85°C	≤ ± 500 ppb	≤ ± 250 ppb
E = -55 to +85°C	≤ ± 700 ppb	≤ ± 300 ppb

TABLE 1: Vdd = 12V

Operating Temperature range	Vdd = 12V ± 0.5V	
	Version standard	Version T high stability
A = 0 to +60°C	≤ ± 200 ppb	≤ ± 50 ppb
B = -20 to +70°C	≤ ± 300 ppb	≤ ± 100 ppb
C = -40 to +85°C	≤ ± 500 ppb	≤ ± 200 ppb
E = -55 to +85°C	≤ ± 700 ppb	≤ ± 300 ppb

TABLE 2: Idd

Temperature	Vdd = 3.3V	Vdd = 5V	Vdd = 12V
+25°C -20°C	≤ 120 mA ≤ 170 mA	≤ 80 mA ≤ 120 mA	≤ 50 mA ≤ 80 mA
start-up current at 25°C duration	≤ 350mA 30s	≤ 300mA 10s	≤ 250mA 10s

TABLE 3: Vc

Frequency control adjustment response slope positive	Vdd = 3.3V	Vdd = 5V	Vdd = 12V
Voltage control input impedance > 47kΩ	0 to 3.3V	0.5 to 5V	0.5 to 5V
Resistor control R connect pin 1 to ground (Input impedance > -4,7kΩ)	0 to 10kΩ	0 to 10kΩ	0 to 10kΩ
No frequency control YA or YB	Pin 1 connect to GND		

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STANDARD FREQUENCIES:

Frequency «MHz»						
10	12	12.8	14.7456	16	20	26
40	52	54				
Other frequencies from 10 kHz up to 54 MHz on request						

ENVIRONMENTAL CHARACTERISTICS:

Storage temp. range	-55 to +125°C
Vibration resistance	10 to 2000Hz / 20g
Shocks resistance	5000g / 0.3ms / ½ sine

TERMINATIONS AND PROCESSING:

Pins soldering	+235°C / 10s max +260°C / 5s max
Package SMD version option D1 or D2 see application notes	Dil 14.4 pins GND to case height = 8mm

PRODUCT DESCRIPTION AND ORDERING INFORMATION:

OCXO V T - C V5 20MHz XXX

W = Vdd 3.3V
V = Vdd 5V
blank = Vdd 12V

T = high stability
blank = standard stability

customer spec N°

A = 0 to +60°C
B = -20 to +70°C
C = -40 to +85°C
E = -55 to +85°C
X = custom

R1 = R = 0 to 10kΩ
V3 = Vc = 0 to 3.3V
V5 = Vc = 0.5 to 5V
YA internal accuracy= ± 1ppm
YB internal accuracy= ± 0.5ppm
Y = custom

Frequency

A unique part number will be generated for each product specification, i.e:
20xxxx-EA00 (in ESD plastic tray)
Please contact us.

All specifications subject to change without notice.

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