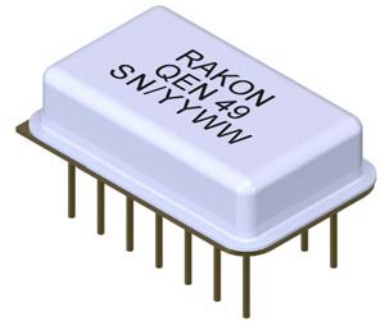


Specific request can be addressed to RAKON hirel@rakon.com

Product Description

This Crystal Oscillator is based on Hybrid Technology in DIL package. This XO performs +/-50 to +/-100pm of overall frequency stability (vs. temperature range and calibration at 25°C, load and power supply changes) and ageing of +/- 5ppm per year. This reference is suitable for rugged radio systems used for instance in high speed trains or avionics.



Features

- Hybrid product with die and wire bonding to a ceramic substrate with 3 points crystal resonator.
- Case type (s) : DIL package 14 pin 20.7 x 13.1 x 5.1mm typical
- Frequency Range : 1.5MHz to 100MHz
- Temperature Range : from -40°C to +85°C up to -55°C to +125°C
- Overall Frequency Stability vs. Temperature Range and calibration at 25°C and load and power supply changes : +/-50 to +/-100pm overall
- Ageing per year: +/-5ppm at 85°C first year
- Output Wave Form : square ; Tristate output
- Supply Voltage : +3.3V or +5V
- Options available : R: duty cycle 50/50; T: tinned pins; Screening B



Applications

- Recommended for embedded applications, extended temperature range, and rugged environment.

Specifications

1.0 Environmental conditions

Line	Parameter	Conditions/remarks	Min	Nom	Max	Unit
1.1	Operating Temperature	Temperature option DT	-40	25	85	°C
		Temperature option AY	-55	25	125	°C
1.2	Switch-on Temperature	TSo	-55		125	°C
1.3	Non-Operating Temperature	TNOp	- 55		125	°C
1.4	Random Vibration	Level as per MIL-STD-202, Method 214, Condition I-F (20 Grms)				
1.5	Sine Vibration	Level as per MIL-STD-202, Method 204, Condition E (50G)				
1.6	Shocks	Mechanical shock as per MIL-STD-202, Method 213, cond A (half sine with a peak acceleration of 50g for duration of 11 msec				
1.7	Acceleration	Acceleration as per MIL-STD-883, Method 2001, condition A (5000g, during 60s in Y1)				

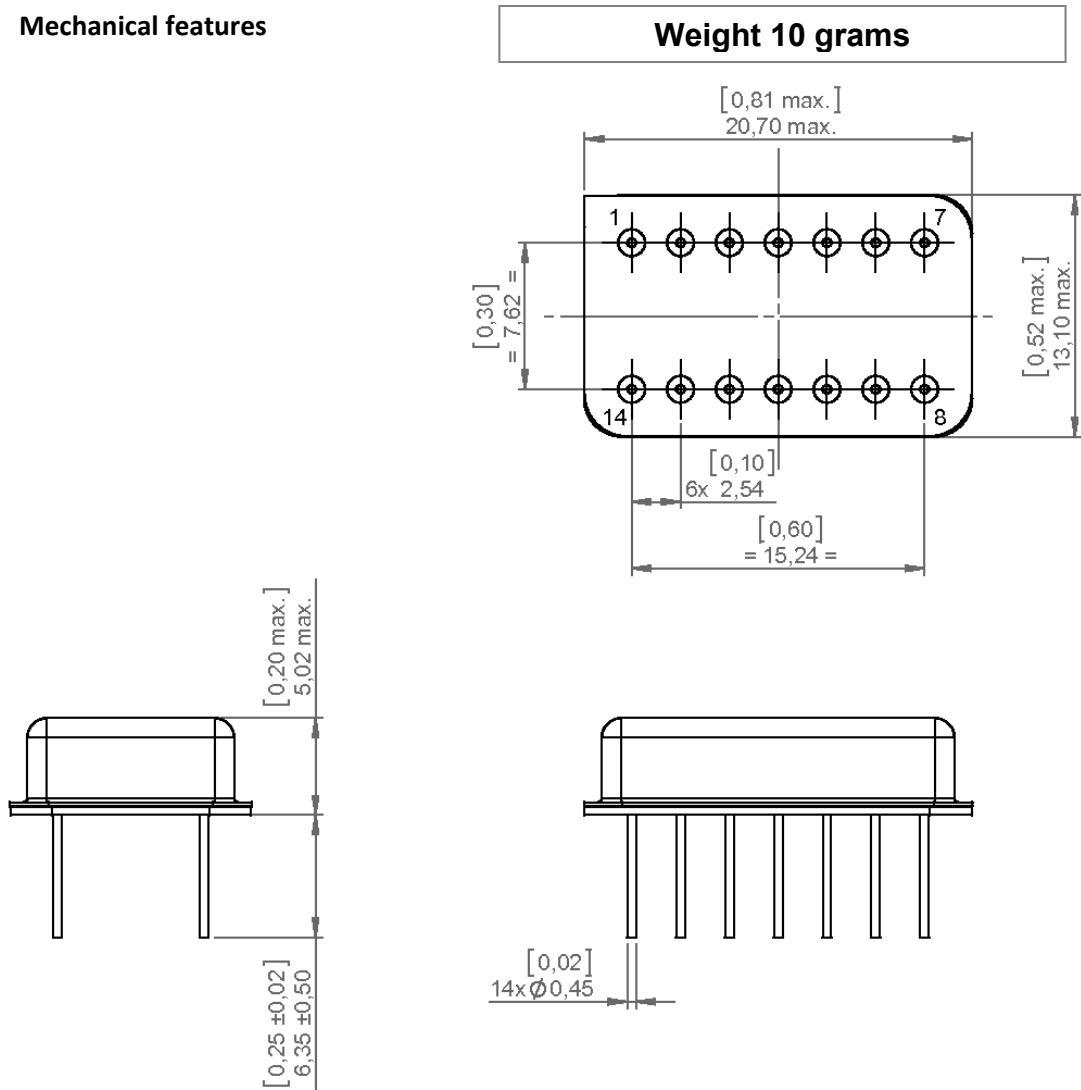
2.0 Electrical interface

Line	Parameters	Conditions/remarks	Min	Nom	Max	Unit
2.1	Power supply	Supply option BH	3.13	3.3	3.465	V
		Supply option AH	4.5	5	5.5	V
2.2	Load Impedance		13	15	18	pF

3.0 Performances

Line	Parameters	Conditions/Remarks	Min	Typ	Max	Unit
3.1a	Nominal Frequency		1.5		100	MHz
3.2	Steady state input current power			20		mA
3.3	Global Frequency stability	Including initial accuracy+freq temp stability+power supply stab+load	Temperature option DT		± 50	ppm
3.4		stability+ageing over 15 years	Temperature option AY		± 100	ppm
3.5	Initial frequency accuracy			± 15		ppm
3.6	Frequency-temperature stability		Temperature option DT		± 20	ppm
3.7			Temperature option AY		± 25	ppm
3.8	Frequency variation vs. supply voltage	Over Operating Temperature		± 3		ppm
3.9	Frequency variation vs. load	Over Operating Temperature		± 5		ppm
3.10	Frequency ageing	Over 15 years		± 12		ppm
3.11	Start up time				10	ms
3.12	Output waveform	AHCMOS compatible		Square		
3.13a	Output level	VOL	Supply option BH		0.4	V
3.13b			Supply option AH		0.5	V
3.14a		VOH	Supply option BH	2.4		V
3.14b			Supply option AH	4.5		V
3.15	Duty cycle			40	60	
		Option R		45	55	%
3.16	Rise time	10%-90% of Vcc, frequency > 10MHz		5		ns
3.17	Fall time	90%-10% of Vcc, , frequency > 10MHz		5		ns

4.0 Mechanical features



DOCUMENT : 150.Plan d'encombrement
150-Oscillator outline



GEN. TOL.
+/- 0.1

UNITS:
mm [inch]

SCALE
3:1

5.0 Pin description

Line	Pin number	Name	Description
5.1	1		NC or Enable/disable or tristate
5.2	2 to 6	N.C.	
5.3	9 to 13	N.C.	
5.4	7	GND	Electrical & mechanical ground
5.5	8	Output	Output Frequency
5.6	14	Vcc	Power supply

6.0 Ordering part number definition

The part number breakdown is defined as follows:

