DOUBLE OVEN SERIES

QEO DO

The Double Oven OCXO series is the standard in terms of stability. It is based on the HC27 crystal (glass package) and the HC46 crystal (metal cold weld package) we are manufacturing.

The heater-system controls the thermal gradient on the crystal blank to better than 0.01° C in the standard operating temperature range.

Therefore we guaranty a thermal stability of 2.10^{-10} from 0 to 70° C, and ageing rates as low as to 1.10^{-9} per year.

Features

Ultra high stability
Ultra low ageing
Low phase noise

Applications

CDMA and GSM Base Stations
Wireless 3rd generation:
UMTS, IMT-2000
GPS receivers
Test and measurement
ITU G812 requirements

Performance range	
Parameters	**Available range**
Frequency	4 to 35 MHz
Thermal stability	1.10^{-10} to 1.10^{-9}
Operating temperature	-20° C to +70° C
Supply voltage	12 V
Tuning voltage	up to ±10 V
Package size (mm)	N°10: 51x41x25 N°75: 50x50x38 N°69: 67x60x38

We welcome your custom specifications

Standard DO OCXO specifications

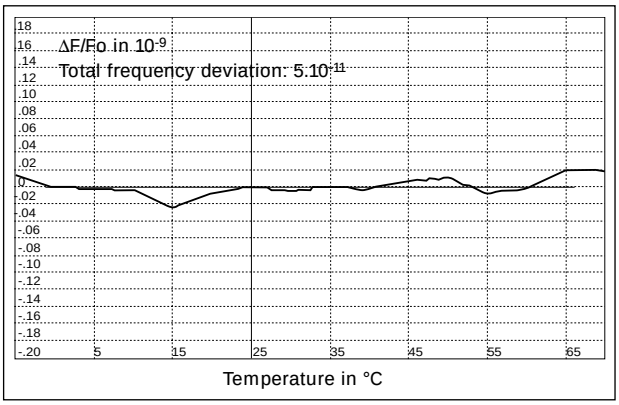
Frequency in MHz	Package size	Supply voltage V	Temperature range °C	Frequency stability vs. temp. range	Ageing per day	Ageing per year	Output	Power at start-up
4.096	69	12	0 ; 50	1.10^{-9}	2.10^{-9}	$2.5.10^{-8}$	SINUS	12 W
5	10	12	10 ; 70	3.10^{-10}	5.10^{-11}	1.10^{-8}	SINUS	9.0 W
5	75	12	0 ; 70	2.10^{-10}	5.10^{-11}	1.10^{-8}	SINUS	12 W
8.192	75	12	-20 ; 55	8.10^{-10}	5.10^{-11}	4.10^{-9}	SINUS	12 W
8.192	69	12	0 ; 70	7.10^{-10}	1.10^{-10}	5.10^{-9}	HCMOS	8.4 W
10	69	12	0 ; 70	4.10^{-10}	4.10^{-11}	$1.5.10^{-9}$	HCMOS	8.4 W
10	75	12	-5 ; 70	2.10^{-10}	5.10^{-11}	3.10^{-8}	SINUS	9.6 W
16.384	75	12	0 ; 70	2.10^{-10}	5.10^{-11}	1.10^{-8}	HCMOS	8 W


N° 10

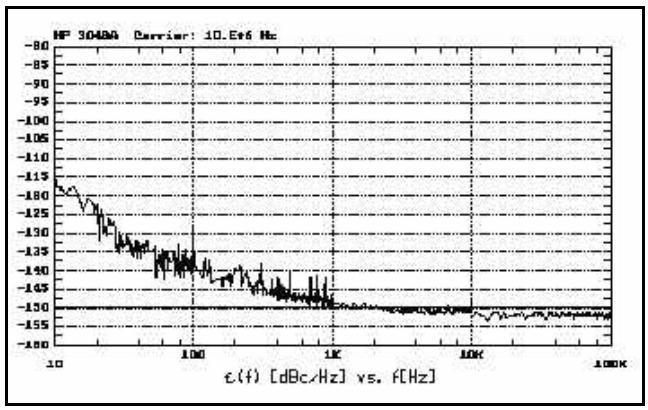

N° 75


N° 69

Frequency stability vs. temperature range at 10 MHz



Phase noise measurements at 10 MHz



How to order?

Ex.: QEO DO 75 KQ 210 @ 10 MHz

Package Nb
K = -5° C
Q = +70° C
(See table)

Stability = 2.10^{-10}

Frequency

Low temp. value	Code	High temp. value	Code
-40° C	D	+50° C	M
-30° C	F	+60° C	O
-20° C	H	+70° C	Q
-10° C	J	+75° C	R
-5 ° C	K	+80° C	S
0° C	L	+85° C	T

Please mention Output signal Waveform (Sine, HCMOS, LVCMOS, LVDS, ...)

Standard DO OCXO specifications

Frequency in MHz	Phase noise dBc/Hz					Frequency stability vs.		Tuning range ±	Reference
	10 Hz	100 Hz	1 kHz	10 kHz	Floor	5% supply	5% load		
4.096	-100	-130	-145	-150	-150	1.10^{-10}	1.10^{-10}	0.5 ppm	QEO DO 69 LM19 @4.096MHz
5	-100	-130	-145	-150	-150	1.10^{-10}	1.10^{-10}	0.5 ppm	QEO DO 10 LQ310 @ 5MHz
5	-100	-130	-145	-150	-150	2.10^{-11}	5.10^{-11}	0.5 ppm	QEO DO 75 LQ210 @5MHz
8.192	-75	-85	-115	-135	-135	2.10^{-10}	2.10^{-10}	0.05 ppm	QEO DO 63LQ710@8.192MHz
8.192	-95	-125	-140	-145	-145	1.10^{-10}	1.10^{-10}	0.5 ppm	QEO DO 75 HN810 @8.192MHz
10	-85	-115	-135	-140	-140	$1.5.10^{-11}$	2.10^{-11}	0.02 ppm	QEO DO 69 LQ410 @10MHz
10	-105	-135	-145	-150	-150	2.10^{-11}	5.10^{-11}	0.75 ppm	QEO DO 75 KQ210 @10MHz
16.384	-95	-125	-145	-150	-150	5.10^{-11}	5.10^{-11}	0.25 ppm	QEO DO 75 LQ210 @16.384MHz