



Features:

- Hermetically sealed enclosure
- Low power consumption
- Ultra-High frequency stability
- AT- and SC-Cut crystals
- Best frequ.-stab. vs. temp. and ageing
- Stability as low as ± 0.5 ppb over -20 to +70°C

Typical Applications:

- Test Equipment
- Pico-Base Stations
- Telecommunication Systems
- GPS

Base models can be modified to your specification within the performance ranges shown below.

General Performance of **QO2736D** series

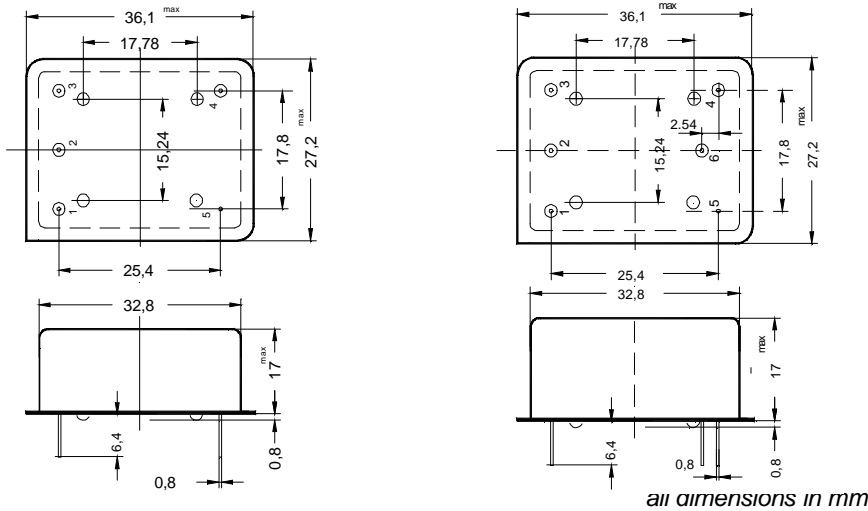
		available	from	typ.	to		
1.	Frequency range		2		80	MHz	
2.	HF- Output		HC-MOS or Sine Wave				
3.	Frequency stability in op. Temp. range	$\leq \pm$	0,2	0,5	1	ppb	
3.1	Frequency overall tolerances ¹⁾	$\leq \pm$	0,05		0,2	ppm	
3.2	Ageing ²⁾	$\leq \pm$	0,2	0,5	1,0	$\cdot 10^{-9}$ day	
		$\leq \pm$	0,05	0,1	0,2	ppm first year	
4.	Phase noise (10 MHz) ³⁾	1 Hz	-95	-85	-75	dBc/Hz	
		10 Hz	-120	-110	-105	dBc/Hz	
		100 Hz	-140	-135	-130	dBc/Hz	
		1 kHz	-145	-140	-135	dBc/Hz	
		>10 kHz	-150	-145	-140	dBc/Hz	
5.1	Operating temperature range		0 ... +50	-20...+70	-40...+85	°C	
5.2	Storage temperature range		-55 ...+105			°C	
6.1	Frequency tuning range	$> \pm$	0,6	2	3	ppm	
6.2	Tuning voltage		0 ... 4			V	
6.3	Reference Voltage		4,0		5,0	V $\pm 1\%$	
7.	Supply voltage		5		12	V $\pm 5\%$	
8.1	Power consumption ⁴⁾	\leq	500			mW @ 25°C	
		\leq	600			mW @ 0°C	
8.2	Power consumption during warm-up	\leq	1500	2500	3500	mW	
8.3	Stabilization time to be within 0.1ppm of final frequency ⁵⁾	\leq	40			s @ 25°C	
		\leq	300			s @ 0°C	
9.	Enclosure		27 x 36 x 18			mm ³	
10.	Weight	\leq	25			g	

Contact factory for improved stabilities or additional product options

Notes:

- 1) Including adj. tol., tol. vs temperature range, vs supply voltage change, vs. load change and 15 years aging
- 2) depends on specification; after 15 days continuous operation
- 3) Phase Noise degrades with increasing output frequency
- 4) depends on operating temperature range and actual temperature
- 5) depends on operating temperature range, temperature and warm-up-powerconsumption

Drawing:

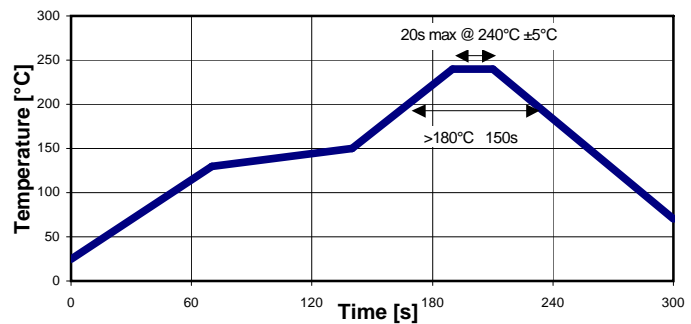


Oven monitor (6-Pin):
 low = alarm
 high = ready

Pin connection:

Pin	Version 5 Pin	Version 6 Pin
1	Frequ. Adj.	Frequ. Adj.
2	Vref.	Vref.
3	Vcc	Vcc
4	RF out	RF out
5	Case / GND	Case / GND
6		Oven monitor

Recommended Soldering Profile:



Marking:

Manufacturer name, Article/Series code, Center Frequency, date code and series no.

This Profile is adjusted to the requirements of higher temperatures at unleaded soldering.

Environmental conditions:

The ovenized crystal oscillators are approved in the following environmental conditions:

Test	IEC 60068 -	MILSTD-	Test conditions
Sealing test	2-17	883E - Meth. 1014	Fine leak: A1 2 x 10 ⁻⁸
Shock	2-27	202F - Meth. 213B A:	50g; 11ms; half-sine
Vibration, sinus	2-6	202F - Meth. 204D B:	10..55Hz 0,75mm; 55..2kHz 10g; 30 min/axis
Thermal Shock	2-14	883E - Meth. 1014 A:	100°C to 0°C, water, 15 cycles

Endurance tests- aging- extended aging 20 days @ 55°C (100%) >1000 days @ 55°C (approval samples)

The oscillator hybrid microcircuit design and construction is in accordance with applicable design and construction requirements.

The final test procedure includes all points of electrical specification especially a 100% test of

- frequency adjustment – calibration
- frequency stability vs. operating temperature range
- long-term stability measurement
- short-term stability measurement
- output waveform