

High performance DIL-SMD-OCXO

Series **QO1422 S**



Features:

Surface Mountable package
Hermetically sealed enclosure
Low power consumption
very fast warm-up
AT- and SC-Cut crystals
Exchange in higher perf. Clock's

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 **QO1422 S**.series

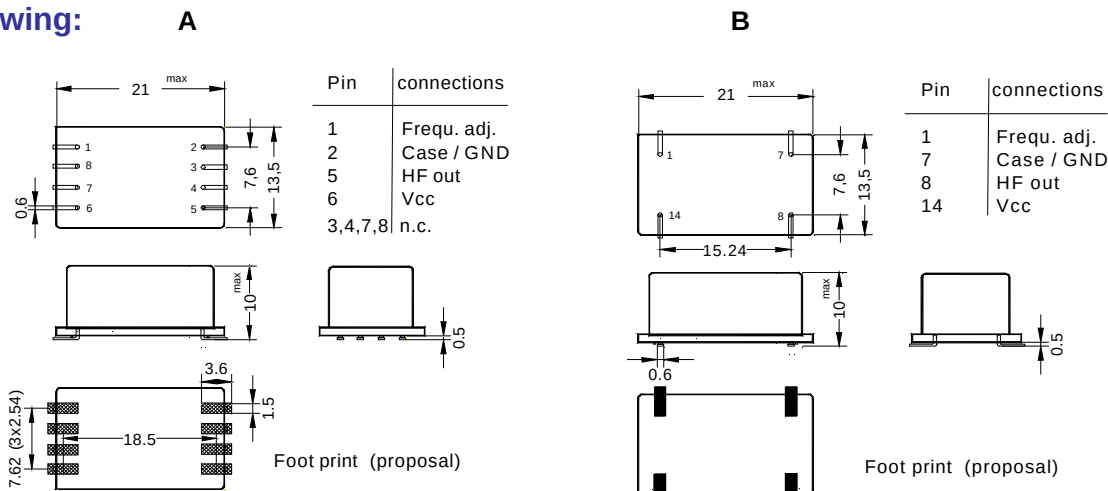
available			from	typ.	to		
1.	Frequency range		2		80	MHz	
2.	HF- Output		HC-MOS or Sine Wave				
3.	Frequency stability in op. Temp. range	$\leq \pm$	0,01	0,05	0,1	ppm	
3.1	Frequency overall tolerances ¹⁾	$\leq \pm$	1,0		4,6	ppm	
3.2	Aging ²⁾	$\leq \pm$	1,0	2,0	5,0	$\cdot 10^{-9}$	day
		$\leq \pm$	0,1	0,2	0,5	ppm	first year
4.	Phase noise (10 MHz) ³⁾	1 Hz	-80	-75	-65	dBc/Hz	
		10 Hz	-105	-100	-95	dBc/Hz	
		100 Hz	-130	-125	-120	dBc/Hz	
		1 kHz	-140	-140	-140	dBc/Hz	
		>10 kHz	-145	-140	-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	$\geq \pm$	1	2	5	ppm	
6.2	Tuning voltage			0 ... 4		V	
7.	Supply voltage		3,3	5	5	V	$\pm 5\%$
8.1	Power consumption ⁴⁾	$\leq$		400		mW	@ 25°C
		$\leq$		600		mW	@ 0°C
8.2	Power consumption during warm-up	$\leq$	1000	2000	3000	mW	
8.3	Stabilization time to be within 0.1ppm of final frequency ⁵⁾	$\leq$	40		300	s	@ 25°C
9.	Enclosure		12,8 x 20,3 x 8,9			mm ³	
10.	Weight	$\leq$	5			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:

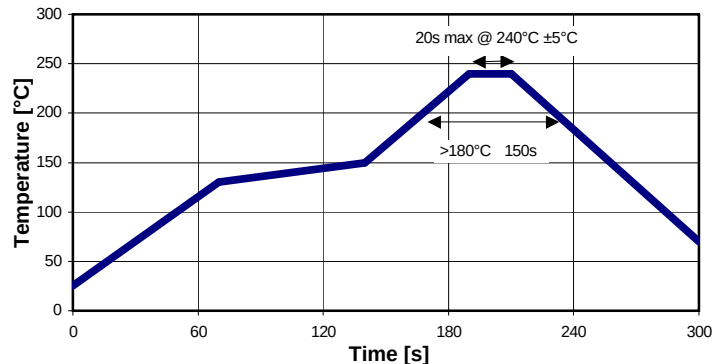


all dimensions in mm

Marking:

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

Recommended Soldering Profile:



These 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