

产 品 规 格 书

Product Specification

CUSTOMER

客户:

CUSTOMER PN

客户 PN:

HANG CRYSTAL P/N

杭晶物料编码: **OD14S4-40.000-50GHPNOL**

MODEL

产品型号: **OCXO DIP-14, Sine wave, 5.0V**

NOMINAL FREQUENCY

频率: **40.000MHz**

ISSUE DATE

日期: **2024 / 03 / 04**

CUSTOMER'S APPROVAL

客户确认

(PLEASE RETURN A COPY WITH APPROVAL)
(请将确认的复印件返回我司)

APPROVED

QA

*MB.**J Jiang*

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Revision	Description / ECN	Prepared	Approved	Date
1	Initial release	<i>MB</i>	<i>James Jiang</i>	2024-03-04
2	Not issued			
3	Not issued			
4	Not issued			

1. NOMINAL AND MAXIMUM RATINGS, OPERATING AND STORAGE CONDITIONS

	PARAMETER	SYMB.	MIN	TYP	MAX	Unit	Conditions / Remarks
1	Nominal frequency	F_N	40.000			MHz	--
2	Operating supply voltage range	V_{CC}	4.75	5.0	5.25	V_{DC}	
3	Output load resistance	R_L		50		Ω	Sine wave output
4	Operating temperature range	T_{OP}	-20	+25	+70	$^{\circ}C$	
5	Storage Temperature Range	T_{ST}	-55		105	$^{\circ}C$	--

Note 1: over the whole range, the unit stays within all relevant parameter limits as specified under point 2.

2. ELECTRICAL PARAMETER LIMITS

	PARAMETER	SYMB.	MIN	TYP	MAX	Unit	Conditions / Remarks
1	Initial Frequency Accuracy	$\Delta f/F_N$	-100		+100	ppb	Offset from nominal at +25 $^{\circ}C$
2	Frequency stability over T_{OP}	$\Delta f/F_{OP}$	-50		+50	ppb	Over T_{OP} Note 1
3	Short Term Stability (in still air)				0.01	ppb/s	Max. 2 times reflow, after 24h
4	Warm-up Time				3.0	min	Within ± 100 ppb of final frequency with reference after 1 hour on@+25 $^{\circ}C$
5	Frequency VS voltage changes	$\Delta f/F_V$	-3		+3	ppb	$V_{CC} \pm 5\%$ at +25 $^{\circ}C$
6	Frequency VS load changes	$\Delta f/F_L$	-3		+3	ppb	$R_L/CL \pm 10\%$ at +25 $^{\circ}C$
7	Aging per day	$\Delta f/F_{Ad}$	-1		+1	ppb	Aging after 30 days of operation
8	Aging first year	$\Delta f/F_{A1}$	-150		+150	ppb	
9	Aging 10 years	$\Delta f/F_{A10}$	-1		+1	ppm	
10	Output level	V_{P-P}	9.0			dBm	Sine wave
11	Harmonic level				-30	dBc	
12	Spurious				-80	dBc	
13	Phase noise	L_{RMS}			-105	dBc/Hz	at 10Hz offset / at +25 $^{\circ}C$
					-130		at 100Hz offset / at +25 $^{\circ}C$
					-150		at 1kHz offset / at +25 $^{\circ}C$
					-155		at 10kHz offset / at +25 $^{\circ}C$
					-155		at 100kHz offset / at +25 $^{\circ}C$
14	Operating Current	I_{CC}			600	mA	During warm up
					200	mA	At steady state,@25 $^{\circ}C$
15	Control Voltage Range	V_C				V_{DC}	NA
16	Input Impedance					K Ω	NA
17	Frequency tuning range	F_{PULL}				ppm	NA
18	Linearity					%	NA

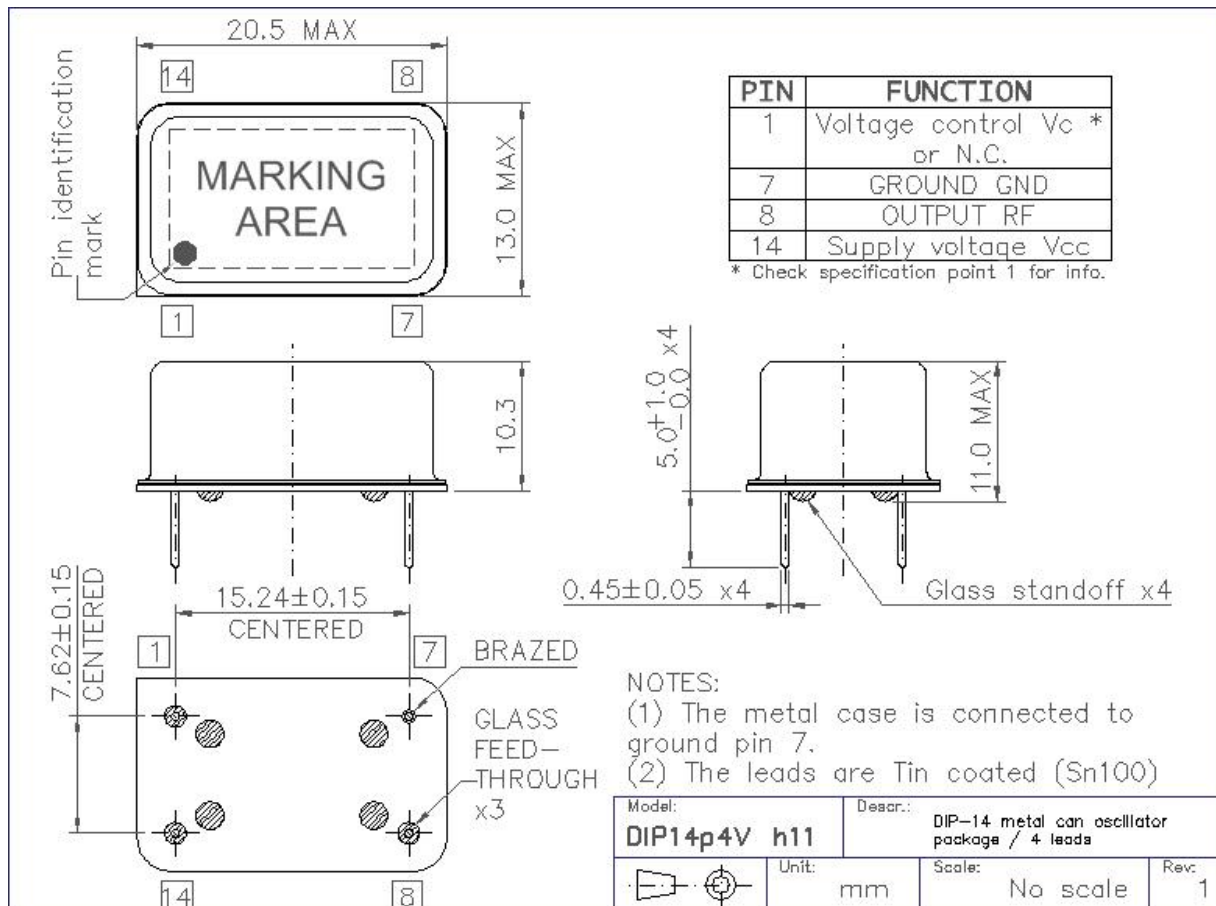
Note 1: Referenced to midpoint between minimum and maximum frequency over specified temperature range.

1. PRODUCT MARKING

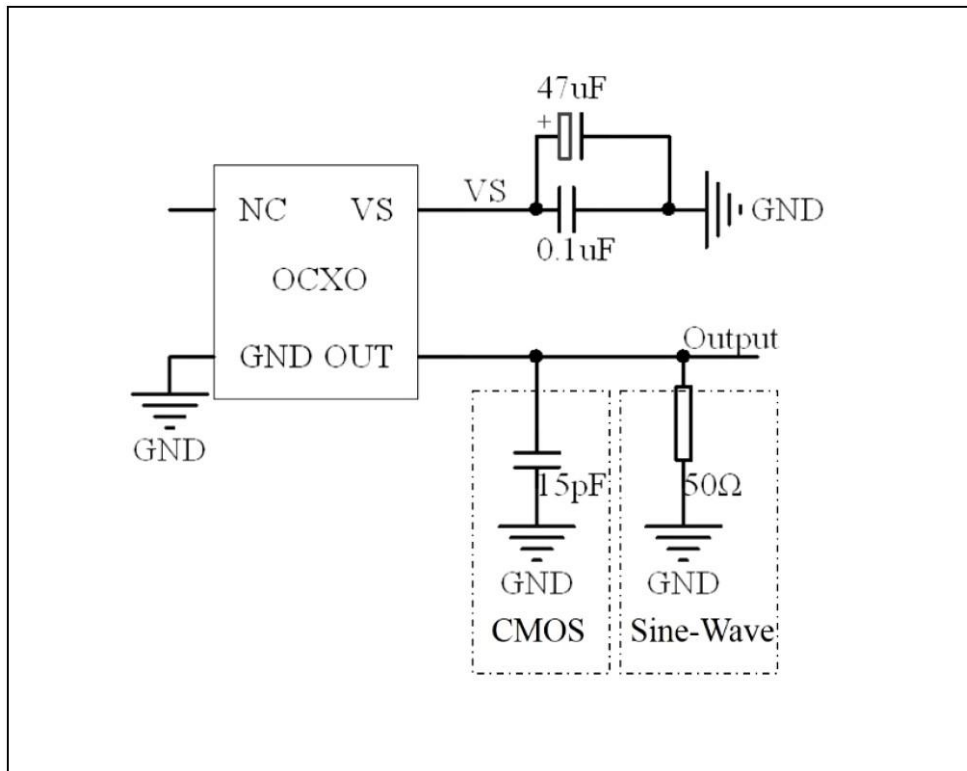
1	FF.fff	Nominal frequency in MHz (three digits after decimal point)										<div><div>HCI YM FF.fffMHz ● S50GHPNO</div></div>				
2	HCI	Company logo														
3	Y	Year code of manufacturing (see table below)														
	Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032			
	Code	V	W	X	Y	Z	A	B	C	D	E	F	G			
4	M	Month code of manufacturing (see table below)														
	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
	Code	A	B	C	D	E	F	G	H	J	K	L	M			

2. OUTLINE DRAWING

	Package description	Package model	Remarks
1	20x13 DIP type with 4 pins	DIP-14h11	Pin 1 N.C.



3. TEST CIRCUIT



4. ENVIRONMENTAL COMPLIANCE INFORMATION

▪ RoHS COMPLIANCE

We can certify herewith that the product is fully RoHS complaint according the “DIRECTIVE 2011/65/EU OF THE EUROPEAN COUNCIL OF 27. JANUARY 2003 ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS SUBSTANCES” in electrical and electronic equipment (RoHS) and its amendments.

The product contains Lead (Pb) in high melting point solder alloy with >85% Lead and falls under RoHS exemption 7a.

In regards of RoHS 2, CE marking directive for finished products, we can provide RoHS test reports and MDS to show compliance, but since our product is not a final application we have no CE mark

▪ HALOGEN FREE

We can certify that this product is Halogen-Free per IEC 61249-2-21:2003.

▪ ELECTROSTATIC DISCHARGE (ESD) SENSITIVITY

This product is sensitive to ELECTROSTATIC DISCHARGE (ESD), precautions for handling and storage shall be applied based on suggested internal standards listed below.

(JEITA EIAJ ED-4701 / JSD22 / ANSI-ESD-S20-20 / IEC 61000-4-2)

▪ MOISTURE SENSITIVITY (MSL) CLASSIFICATION [J-STD-020C]

This product in a hermetically sealed package does NOT fall under the classification of moisture sensitivity per above stated standard (standard is for non-hermetically sealed components).

If customer's system requires an entry in this regard we suggest using LEVEL 1.

5. PACKAGING INFORMATION

PACKAGING IN ESD CONFORM PLASTIC TUBES OR TRAY STAPLED INTO A CARDBOARD BOX.