

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: 5220H5-24.576R33DTNOL

MODEL 产品型号: OCXO 20x20mm, CMOS, 3.3V

NOMINAL FREQUENCY 频率: 24.576MHz

ISSUE DATE 日期: 2023 / 06 / 05

CUSTOMER'S APPROVAL

客户确认

(PLEASE RETURN A COPY WITH APPROVAL)
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APPROVED

QA

MB.

J Jiang

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Revision	Description / ECN	Prepared	Approved	Date
1	Initial release	MB.	James Jiang	2023-06-05
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	24.576			MHz	--
2	Operating supply voltage range	V_{CC}	3.135	3.3	3.465	V_{DC}	
3	Output load	R_L		15		pF	CMOS Level
4	Operating temperature range	T_{OP}	-40	+25	+85	°C	
5	Storage Temperature Range	T_{ST}	-40		+105	°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°C
2	Frequency stability over T_{OP}	$\Delta f/F_{OP}$	-5		+5	ppb	Over T_{OP} Note 1
3	Short Term Stability (in still air)				0.01	ppb/s	Max, after power on 1h
4	Warm-up Time				3.0	min	Within ± 100 ppb of final frequency with reference after 1 hour on@+25°C
5	Frequency VS voltage changes	$\Delta f/F_V$	-2.0		+2.0	ppb	$V_{CC} \pm 5\%$ at +25°C
6	Frequency VS load changes	$\Delta f/F_L$	-2.0		+2.0	ppb	$CL \pm 10\%$ at +25°C
7	Aging per day	$\Delta f/F_{Ad}$	-1.0		+1.0	ppb	Aging after 30 days of operation
8	Aging first year	$\Delta f/F_{A1}$	-150		+150	ppb	
9	Aging 10 years	$\Delta f/F_{A10}$	-0.8		+0.8	ppm	
10	Output voltage level HIGH	V_{OH}	2.4			V_{DC}	
11	Output voltage level LOW	V_{OL}			0.4	V_{DC}	
12	Output amplitude rise/fall time	$t_r t_f$			5.0	ns	15pF / +25°C
13	Output amplitude symmetry	DC	45		55	%	15pF / +25°C
14	Phase noise	L_{RMS}			-80	dBc/Hz	at 1Hz offset / at +25°C
					-110		at 10Hz offset / at +25°C
					-130		at 100Hz offset / at +25°C
					-150		at 1kHz offset / at +25°C
					-155		at 10kHz offset / at +25°C
					-155		at 100kHz offset / at +25°C
15	Operating Current	I_{CC}			1000	mA	During warm up
					300	mA	At steady state,@25°C
16	Control Voltage Range	V_C				V_{DC}	NA
17	Frequency tuning range	F_{PULL}					NA

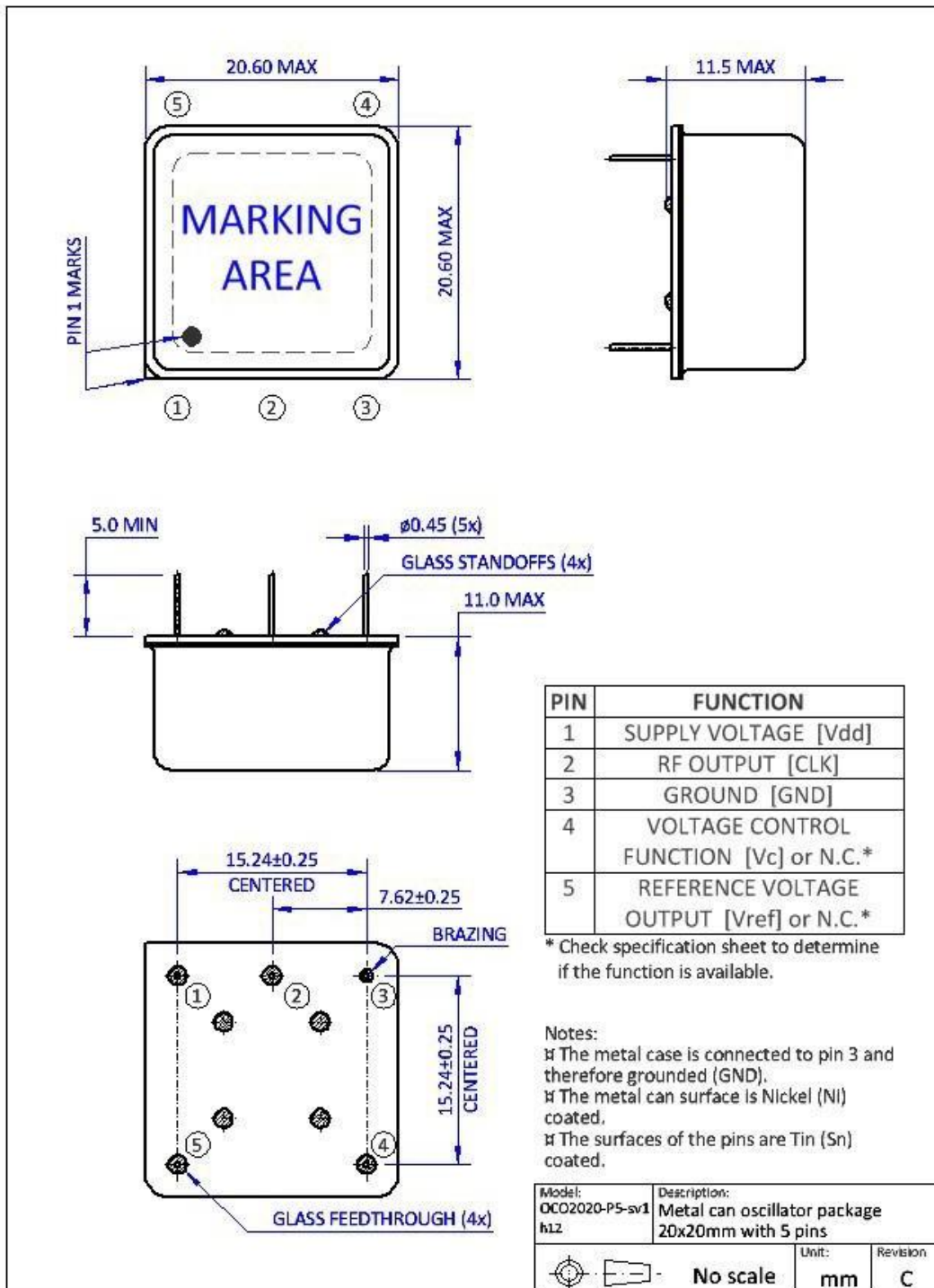
Note 1: Referenced to midpoint between minimum and maximum frequency over specified temperature range.

3. PRODUCT MARKING

To be defined.

4. OUTLINE DRAWING

	Package description	Package model	Remarks
1	20x20 with 5 pins	20x20 TH	Pin 4 & Pin5 NC.



5. TEST CIRCUIT

