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：	**5225H5-10.000N50DTVAL**
MODEL	产品型号：	**OCXO 25x25 , CMOS, 5.0V**
NOMINAL FREQUENCY	频率：	**10.000MHz**
ISSUE DATE	日期：	**2022 / 06 / 18**

CUSTOMER'S APPROVAL

客户确认

(PLEASE RETURN A COPY WITH APPOVAL)
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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	2022-06-18
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		**10.000**		MHz	--
2	Operating supply voltage range	V_{CC}	4.75	5.0	5.25	V_{DC}	
3	Output load	RL		15		pF	CMOS Level
4	Operating temperature range	T_{OP}	–40	+25	+85	°C	Note 1
5	Storage Temperature Range	T_{ST}	–55		+90	°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	$\Delta f/F_N$	–200		+200	ppb	Offset from nominal at +25°C
2	Frequency stability over T_{OP}	$\Delta f/F_{OP}$	–10.0		+10.0	ppb	Over T_{OP} Note 1
3	Short Term Stability (in still air)				0.05	ppb/s	Max, after power on 1h
4	Warm-up Time				3.0	min	Within ±200 ppb of final frequency with reference after 1 hour on@+25℃
5	Frequency VS voltage changes	$\Delta f/F_V$	–2.0		+2.0	ppb	Vcc ±5% at +25°C
6	Frequency VS load changes	$\Delta f/F_L$	–2.0		+2.0	ppb	CL ±10% at +25°C
7	Aging per day	$\Delta f/F_{Ad}$	-0.5		+0.5	ppb	Aging after 30 days of operation
8	Aging first year	$\Delta f/F_{A1}$	–75		+75	ppb	
9	Aging 10 years	$\Delta f/F_{A10}$	-0.3		+0.3	ppm	
10	Output voltage level HIGH	V_{OH}	2.4			V_{DC}	HCMOS level 90%V_{CC} MIN
11	Output voltage level LOW	V_{OL}			0.4	V_{DC}	HCMOS level 10%V_{CC} MAX
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}			–90	dBc/Hz	at 1Hz offset / at +25°C
					–120		at 10Hz offset / at +25°C
					–140		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}			700	mA	During warm up
					250	mA	At steady state,@25℃
16	Control Voltage Range	V_C	0	2.5	5.0	V_{DC}	
17	Reference Voltage	V_{REF}				V_{DC}	NA
18	Frequency tuning range	F-PULL	±0.8			ppm	Positive Slope

19	Linearity				10	%	
20	Input Impedance		100			KΩ	

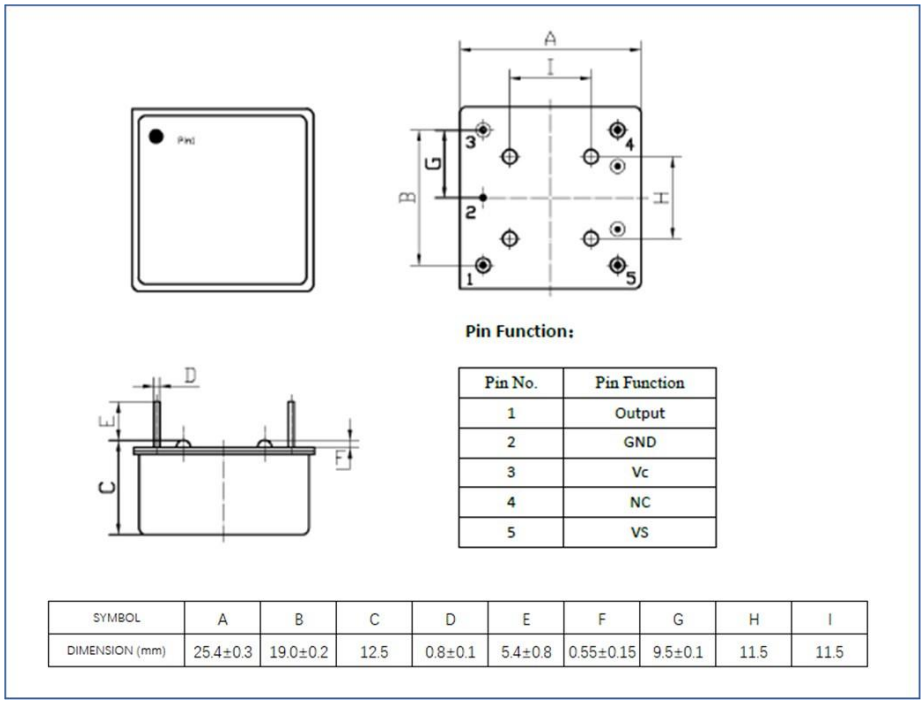
Note 1: Referenced to midpoint between minimum and maximum frequency over specified temperature range.

3. PRODUCT MARKING

To be defined.

4. OUTLINE DRAWING

	Package description	Package model	Remarks
1	OCXO 25x25 SMD with 5 pins	2525-5P	--



Pin Function:

Pin No.	Pin Function
1	Output
2	GND
3	Vc
4	NC
5	VS

SYMBOL	A	B	C	D	E	F	G	H	I
DIMENSION (mm)	25.4±0.3	19.0±0.2	12.5	0.8±0.1	5.4±0.8	0.55±0.15	9.5±0.1	11.5	11.5

5. TEST CIRCUIT