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：	**5797H4-25.000L33DTVCL**
MODEL	产品型号：	**OCXO 9.7x7.5mm, CMOS, 3.3V**
NOMINAL FREQUENCY	频率：	**25.000MHz**
ISSUE DATE	日期：	**2023 / 08 / 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	2023-08-18
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		**25.000**		MHz	--
2	Operating supply voltage range	V_{CC}	3.135	3.3	3.465	V_{DC}	
3	Output load	RL		15		pF	CMOS Level
4	Operating temperature range	T_{OP}	–40	+25	+85	°C	
5	Storage Temperature Range	T_{ST}	–55		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	$\Delta f/F_N$	–1.0		+1.0	ppm	Offset from nominal at +25°C
2	Frequency stability over T_{OP}	$\Delta f/F_{OP}$	–20		+20	ppb	Over T_{OP} Note 1
3	Short Term Stability (in still air)				0.03	ppb/s	1S
4	Warm-up Time				3.0	min	Within ±100 ppb of final frequency with reference after 1 hour on@+25℃
5	Frequency VS voltage changes	$\Delta f/F_V$	–10		+10	ppb	Vcc ±5% at +25°C
6	Frequency VS load changes	$\Delta f/F_L$	–10		+10	ppb	RL//CL ±10% at +25°C
7	Aging per day	$\Delta f/F_{Ad}$	-3		+3	ppb	Aging after 30 days of operation
8	Aging first year	$\Delta f/F_{A1}$	–500		+500	ppb	
9	Aging 20 years	$\Delta f/F_{A1}$	–2.0		+2.0	ppm	
10	Output voltage level HIGH	V_{OH}	2.4	2.8		V_{DC}	
11	Output voltage level LOW	V_{OL}			0.4	V_{DC}	
12	Output amplitude rise/fall time	$t_{R/F}$			8	ns	At 20~80%V_{CC} /+25°C
13	Output amplitude symmetry	DC	45		55	%	At 50%V_{CC} / 15pF / +25°C
14	Phase noise	L_{RMS}		-105	-100	dBc/Hz	at 10Hz offset / at +25°C
				-140	-135		at 100Hz offset / at +25°C
				-160	-155		at 1kHz offset / at +25°C
				-160	-155		at 10kHz offset / at +25°C
				-165	-160		at 100kHz offset / at +25°C
15	Operating Current	I_{CC}			600	mA	During warm up
					250	mA	At steady state,@25℃
16	Control Voltage Range	V_C	0	1.65	3.3	V_{DC}	
17	Frequency tuning range	F-PULL	±2.0			ppm	Positive Slope
18	Linearity				10	%	
19	Input Impedance		100			KΩ	

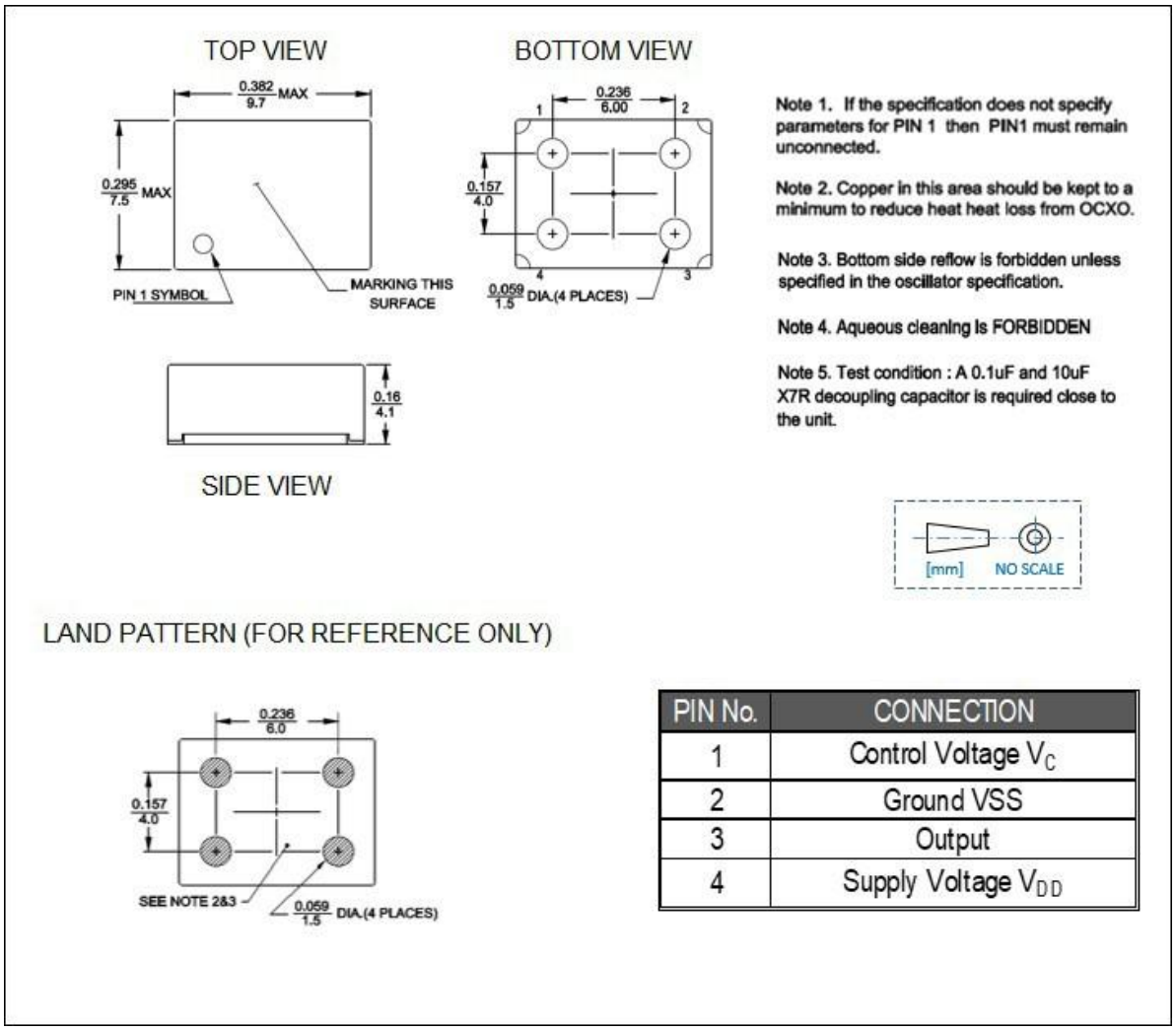
Note 1: Referenced to midpoint between minimum and maximum frequency over specified temperature range.

3. PRODUCT MARKING

To be defined.

4. OUTLINE DRAWING

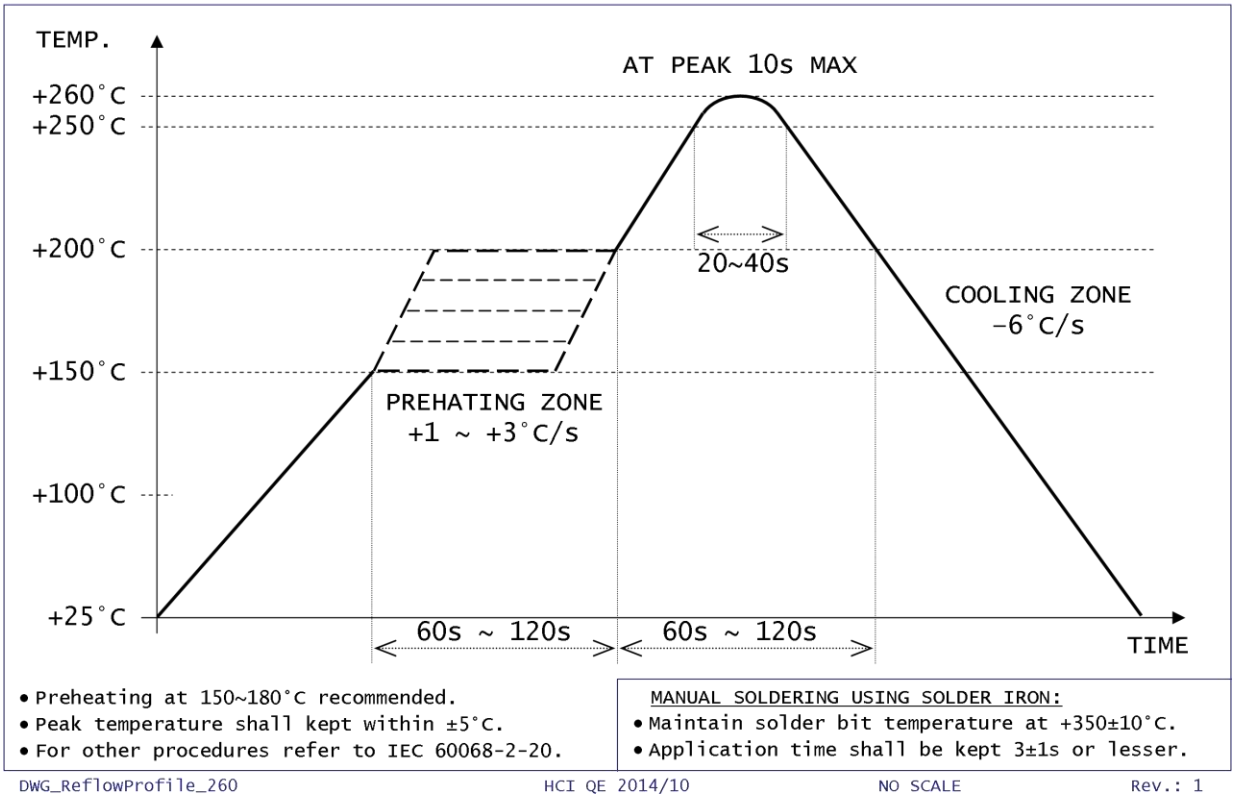
	Package description	Package model	Remarks
1	9.7x7.5 with 4 pads	9.7x7.5 SMD	--



PIN No.	CONNECTION
1	Control Voltage V_C
2	Ground VSS
3	Output
4	Supply Voltage V_{DD}

5. RECOMMENDED SOLDERING INFORMATION

RECOMMENDED REFLOW SOLDER PROFILE – PEAK TEMPERATURE UP TO +260°C



6. TEST CIRCUIT