ROHS COMPLIANT

APPROVAL SHEET

Customer : _____

Part Number: _____

Part No.: 11415012800.0001

Holder : OCXO-14S

Frequency: 12.8MHz

Manufacturer: _____

Date: 2023-03-22

Prepared	Checked	Approved

(For Customer Use)

Acceptable	Non-Acceptable

Revision History

No.	Revised Date	Change Content	Approved	Remark
1.0	2023-3-22	Initial Release		

1. Scope

This document describes technical guidelines of product **11415012800.0001**

2. Electrical Characteristics

LVCMOS OUTPUT OCXO-14						
PARAMETER	**SYMBOL**	**CONDITIONS**	**MIN**	**TYPE**	**MAX**	**UNIT**
Normal Frequency	F_n	SC		12.8		MHz
Absolute maximum ratings						
Maximum Supply Range	Vcc	–	-0.3		+5.5	V
Operating Temperature range	TA	–	-40		85	℃
Storage Temperature range			-50		105	℃
Power						
Operating Supply Voltage	V_{cc}		3.13	3.3	3.46	V
Turn-On		Nom Vcc			2.5	W
Steady state		Ta=25℃			1	W
Frequency Stability						
Calibration		T_A=25℃		±0.3		ppm
Freq VS Temperature	T_S	-40℃ to 85℃			±20	ppb
Freq VS Time (Aging)		Per day			±5	ppb
		1st year			±500	ppb
		10 years			±4	ppm
Warm up time		time to ±0.5 of F_n			3	minutes
Output parameters						
Output signal		-	LVCMOS			
Output load		Output to ground	13.5	15	16.5	pF

Output Level	V_{OH}	High Level	2.97			V
	V_{OL}	Low Level			0.33	V
Duty Cycle			40	50	60	%
Rise time/ Fall time					10	ns
Phase noise		1Hz		-80		dBc/Hz
		10Hz		-110		dBc/Hz
		100Hz		-130		dBc/Hz
		1KHz		-145		dBc/Hz
Phase noise		10Hz		-150		dBc/Hz

3. Construction

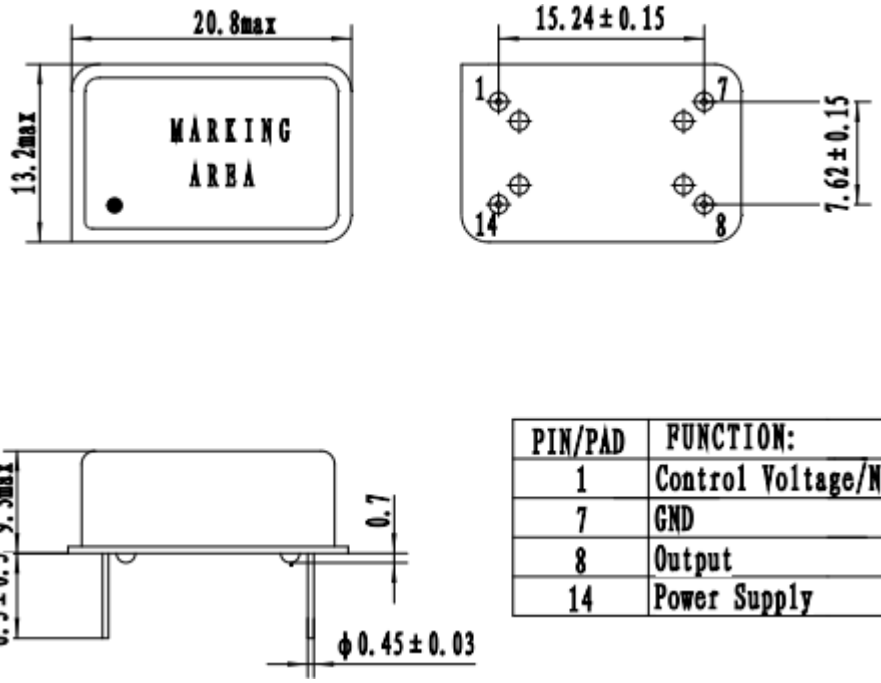
1. Oscillator enclosure seal:

   ☐Seam seal ■resistance weld ☐cold weld

2. crystal enclosure medium

   ☐nitrogen ■vacuum ☐dry air

4.Dimension:



PIN/PAD	FUNCTION:
1	Control Voltage/NC
7	GND
8	Output
14	Power Supply

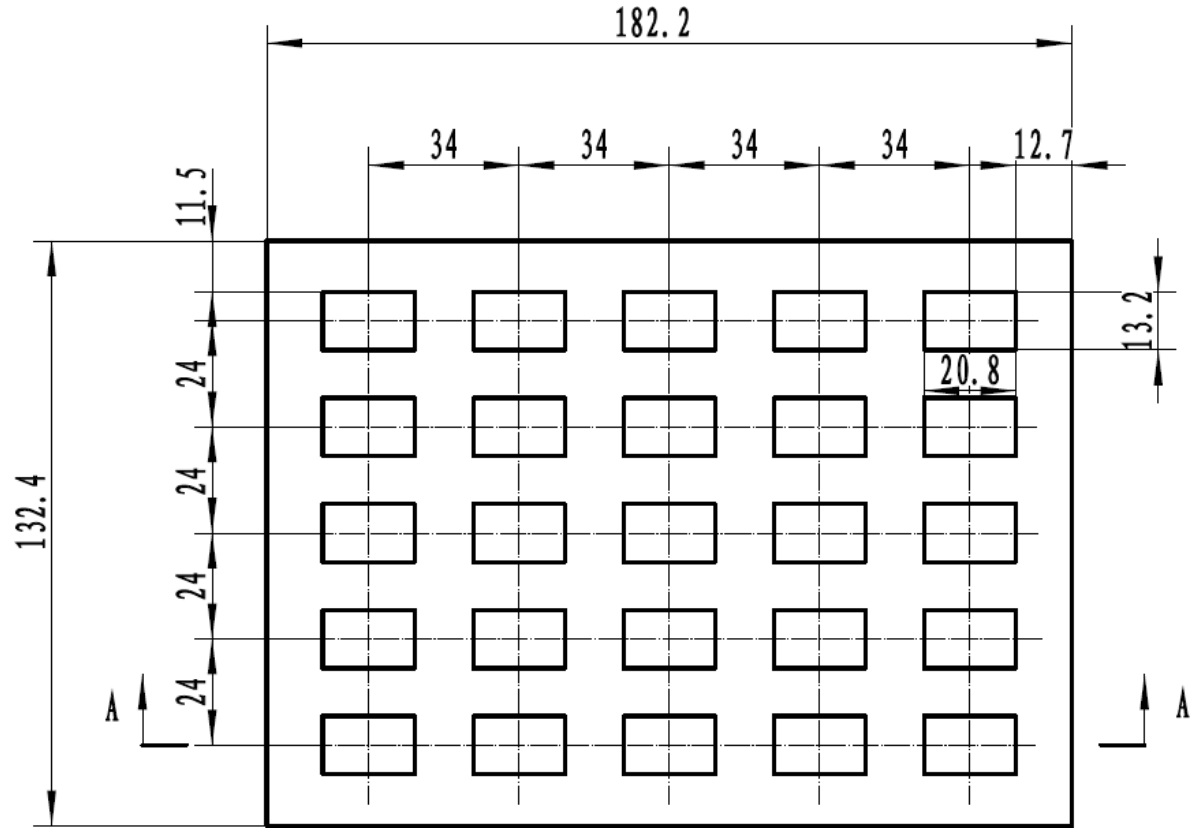
Units: mm

5. Marking

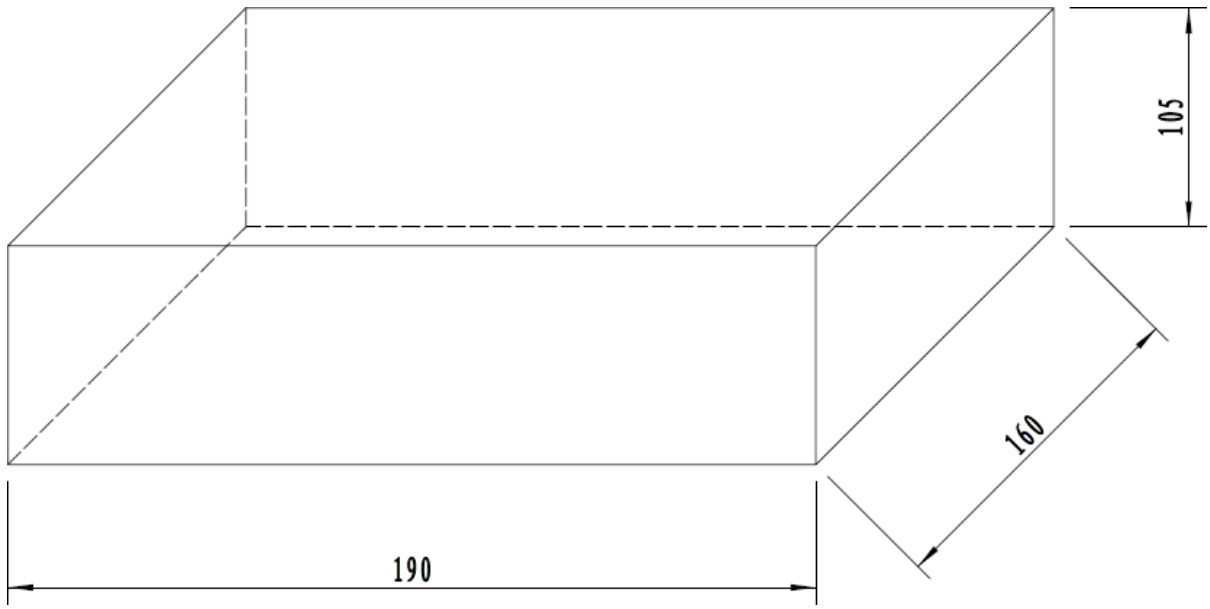
■ Laser Marking ☐ Ink Marking

6. Packing Instruction

Units: mm



Tray Material: ESD plast. 25 units per tray.



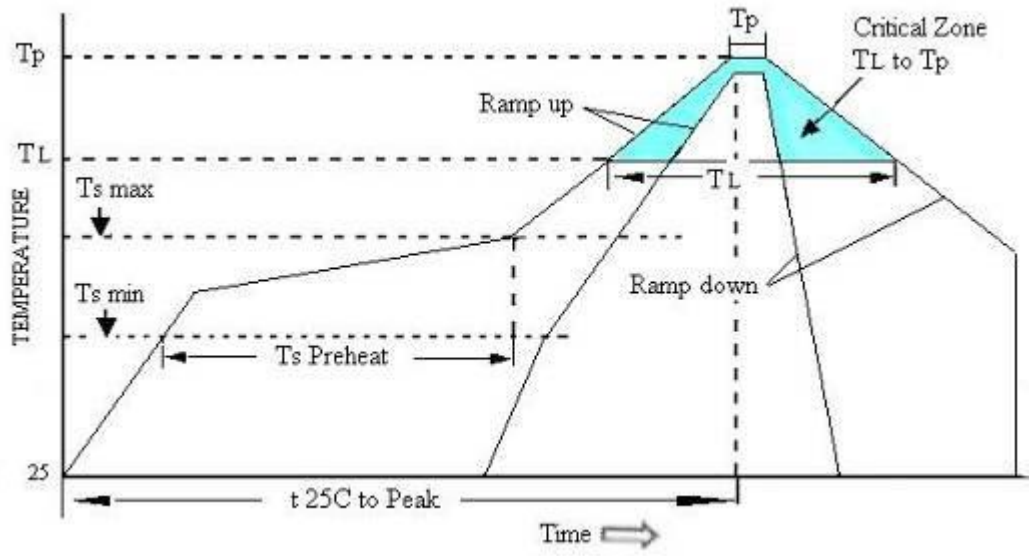
100 unites max per box.

7.Reliability characteristic:

	Item	Condition	Specifications
7.1	Reflow Simulation	3X 240°C Peak 20 secs max above 240°C	ΔF≤±0.2ppm
7.2	Power Cycl	100 Cycles -40°C, 30 minutes no power (off) and 30 minutes powered (on) -- Test product for functionality -- Continue for another 250 cycles -- Test product for functionality -- Intenal visual and mechanical inspection	ΔF≤±0.2ppm
7.3	Thermal Shock	Subject samples to temperature extremes of –40 and +125C, 30 minute soaks at the temperature extremes, 10 seconds maximum transition time between extremes. The test duration is 10 Cycles GJB 360A-96 Method 107.	ΔF≤±0.2ppm
7.4	Mechanical Shock	IEC 68-2-27 Test Ea	ΔF≤±0.2ppm
7.5	Vibration	IEC 68-2-06 Test Fc	ΔF≤±0.2ppm
7.6	Free drop	Drop from 10cm height on 3cm hard wooden board for 6 times GB2423.8-1995（idt IEC 68-2-32:1990）Method Ed。	ΔF≤±0.2ppm
7.7	Aging	Bias oscillators at nominal voltage and subject oscillators to 25C for 1008 hours. Readings are to be taken with oscillator at 25C twice per day. Determine aging (frequency shift post 1008 hours minus initial frequency). Use the results to predict long-term aging.	Per. Spec.
7.8	Solderability	Precondition parts by steaming (over boiling water) for 8 hours OR age the parts at 150C for 16 hours	A new uniform coating of solder shall cover a minimum of 95% of the surface being immersed.

8.All products are RoHs compliant

9. Reflow Profile



High Temperature Infrared /Convection

Note:Temperature shown are applied to body of device

Ts max to T_L(Ramp-up Rate)	3℃/second max
Preheat Temperature Min(Ts Min) Temperature Typical(Ts Typ) Temperature Max.(Ts Max) Time(ts)	 150℃ 175℃ 200℃ 60-180 seconds
Ram-up Rate(T_L to Tp)	3℃/second Max
Time Maintained Above: --Temperature(T_L) --Time(T_L)	 217℃ 60-150seconds
Peak Temperature (Tp)	260℃ Max for 10 seconds
Time within 5℃ of actual peak(t_p)	20-40 seconds
Ramp-down Rate	6℃/seconds Max
Tune 25℃ to Peak Temperature(t)	8 minutes Max
Moisture Sensitivity Level	Level 1

High Temperature Manual Soldering

Note:Temperature shown are applied to body of device

260℃ Max for 5 seconds Max, 2 times Max