Customer Code: _____

DATASHEET

DAPU P/N: DPA3210M0000ESA0NB0

DAPU			Customer Approval
Drew	Audited	Approved	
Jieshu ZHENG	Jianhua LIN	Gangtao FENG	
Date： 2024/4/3			Stamp, please! Thanks!

Guangdong Dapu Telecom Technology Co.,Ltd

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0		Jieshu ZHENG	2024/3/12

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1、Electrical Parameter

MODEL:		DPA3210M0000ESA0NB0					
For Automotive							
No.	Parameters	SYM.	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Nominal Frequency	FL		10.000		MHz	
2	Standard	-		AEC-Q100		-	
3	Oscillation Mode	-		Fundamental		-	
4	Frequency Tolerance	-	-10		10	ppm	At 25℃
5	Frequency Stability	-	-25		25	ppm	Over Operating Temperature Range（Reference 25 ℃）
6	Operating Temperature	Topr	-40		105	℃	
7	Storage Temperature	Tstg	-55		125	℃	
8	Supply Voltage	V_{DD}	1.62	3.30	3.63	V	
9	Input Current	Icc			10	mA	
10	Output waveform	-		CMOS			
11	Output Load	CL		15			
12	Output Voltage High	V_{OH}	0.9			V_{DD}	
13	Output Voltage Low	V_{OL}			0.1	V_{DD}	
14	Rise Time	Tr			5	ns	10% -90% V_{DD} Level
15	Fall Time	Tf			5	ns	90% -10% V_{DD} Level
16	Aging	-	-3		3	ppm	First Year at 25℃
17	Tri-State Output Enable	-	0.7			V_{DD}	Pin 1, OE
18	Tri-State Output Disable	-			0.3	V_{DD}	Pin 1, OE
19	Duty Cycle	-		45~55		%	
20	Start-Up Time	Tstart			2	ms	Measured from the time VDD reaches its rated minimum value

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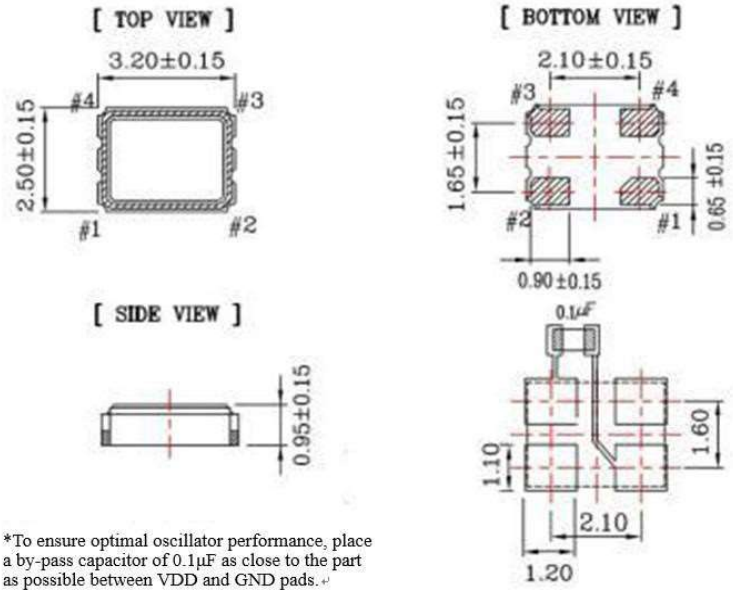
2、Mechanical Structure

2.1 Dimensions

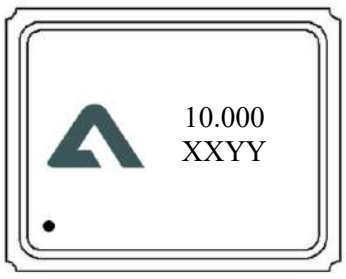


*To ensure optimal oscillator performance, place a by-pass capacitor of 0.1μF as close to the part as possible between VDD and GND pads.

Pin	Function
#1	Tri-State
#2	GND
#3	Output
#4	V_{DD}

Unit: mm

2.2 Marking



-------- DAPU LOGO
10.000 -------- Frequency
XXYY -------- Manufactured day: XX YY
Year Week
-------- Pin 1

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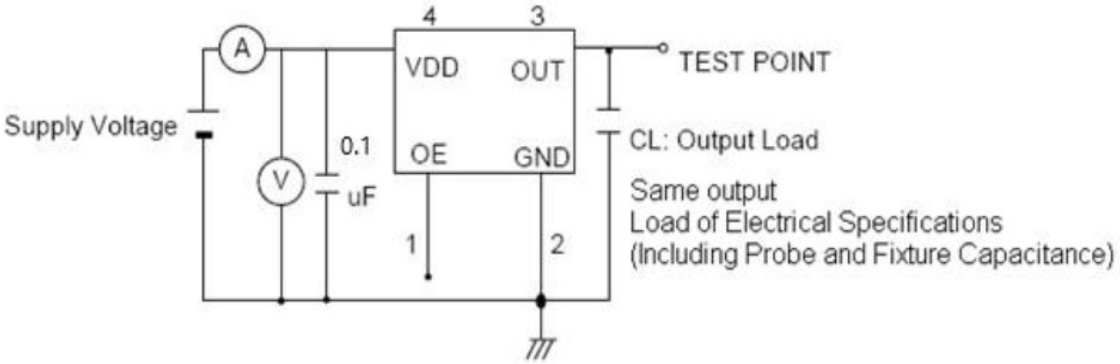
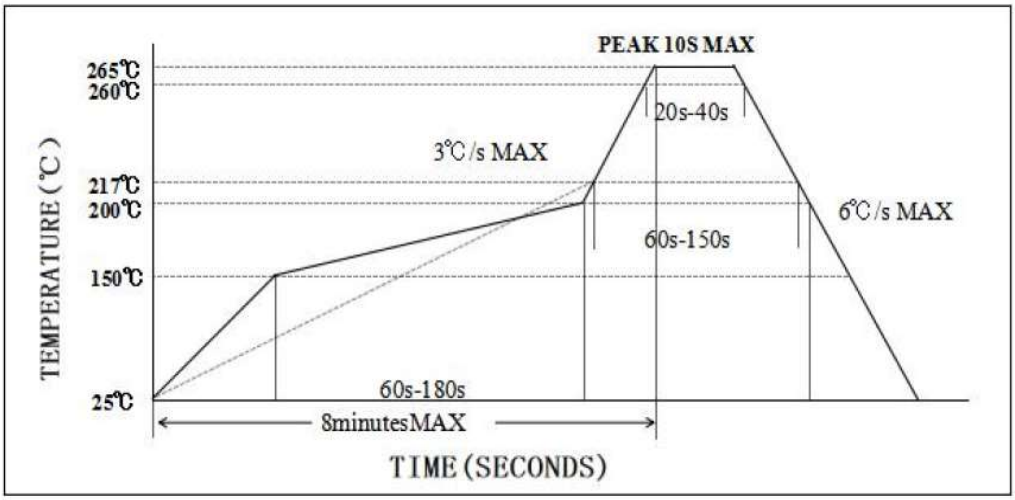
3、Test Circuit



Control input (output enable/disable)

Tri-State Pin	Output Pin
Logic 1 or open	Oscillator output
Logic 0	Disable output to high impedance

4、Reflow Soldering Curve (RoHS)



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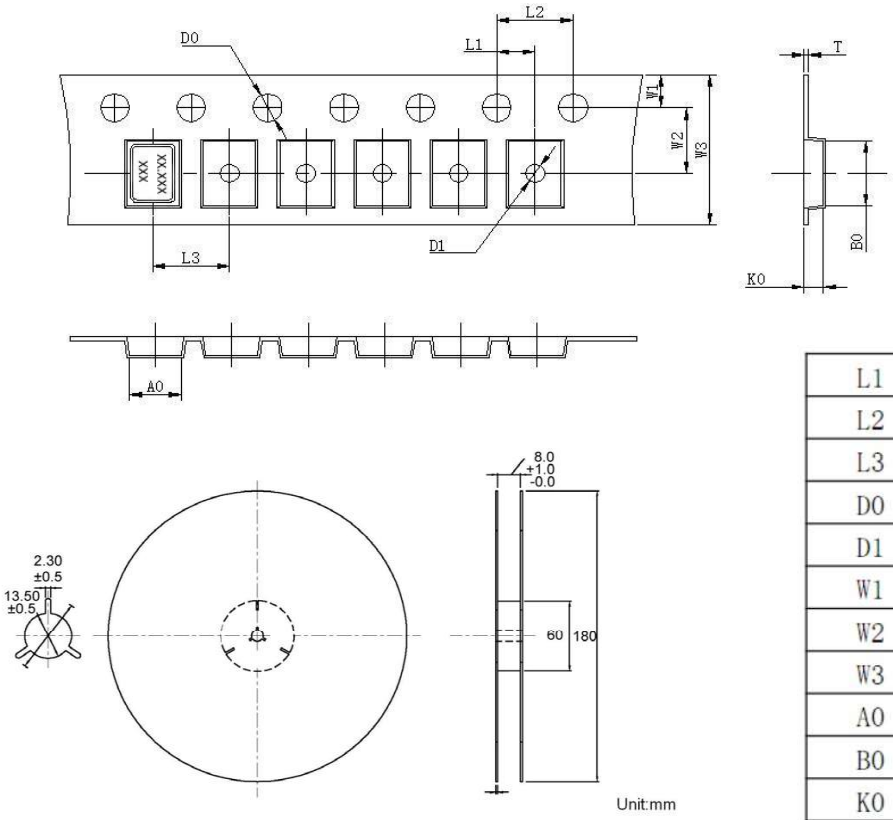
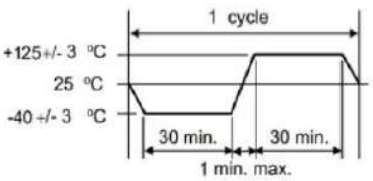
5、Package: Tape & Reel (mm)



L1	2.00±0.1
L2	4.00±0.1
L3	4.00±0.1
D0	1.55±0.05
D1	1.20±0.5
W1	1.75±0.1
W2	3.50±0.1
W3	8.00±0.2
A0	2.7±0.1
B0	3.4±0.1
K0	1.40±0.1
T	0.25±0.05

6、Reliability Test Specification

6.1 Reliability Test (Reference AEC-Q200)				
NO.	Test Items	Test Standard	Test Condition	Standard
1	High temperature storage	MIL-STD-202 Method 108	The crystal was placed at a temperature of 125±2℃ for 1000 hours.	A
2	Temperature cycle	JESD22 Method JA-104	Cystal do 1000 cycles according to the table below temperature. 	A
3	Temperature and humidity	MIL-STD-202 Method 103	The crystal is placed for 1000 hours at a temperature of 85±2℃ and a humidity of 85% Time.	A
4	Life span	MIL-STD-202 Method 108	The crystal is placed at a temperature of 105°C ± 2°C for 1000 hours (applied rated VDD).	A

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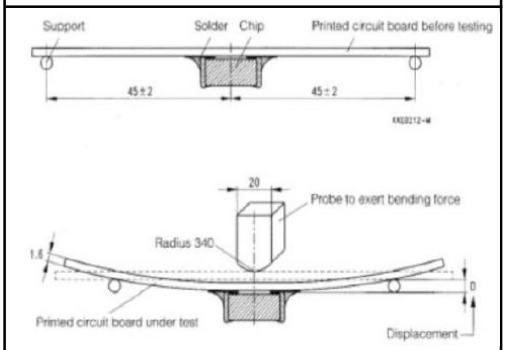
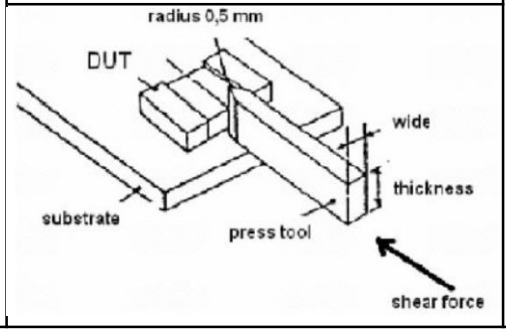
NO.	Test Items	Test Standard	Test Condition	Standard
5	Shock	MIL-STD-202 Method 213	Shock method: half sine wave 100G Duration: 6ms Direction: X, Y, Z Axia l, 6 faces, 18 shocks in total	A
6	Vibration	MIL-STD-202 Method 204	Vibration frequency: 10~2000Hz Vibration amplitude: 1.5mm Scan time: 20 min Directions: X, Y, Z (12 cycles in each of the three directions)	A
7	Resistance to soldering heat	MIL-STD-202 Method 210	Reflow soldering: Peak temperature:260±5℃ time: 10s±1s.	A
8	Solderability	J-STD-002	Soldering temperature:245±5℃ Immersion time:5±0.5 seconds Flux Rosin: Resin Methanol Solve nt (1 : 4)	B
9	Panel bending	AEC-Q200-005	Apply pressure to the center of the product until it bends to a minimum of 2mm and keep 60±5 seconds. 	A
10	Terminal strength	AEC-Q200-006	Apply a force of 1.8Kg laterally for 60±1 seconds. 	A

6.2 Test Judgment

Specification	
A	Test after 24±2 hours under normal temperature and normal humidity, and meet electrical performance requirements.
B	At least 95% of the immersed end is covered with new welding material.