

Customer Code: _____

DATASHEET

DAPU P/N: DPX2148M000006AA01

DAPU			Customer Approval
Drew	Audited	Approved	
Jieshu ZHENG	Jianhua LIN	Gangtao FENG	
Date : 2024/9/5			

Stamp, please! Thanks!

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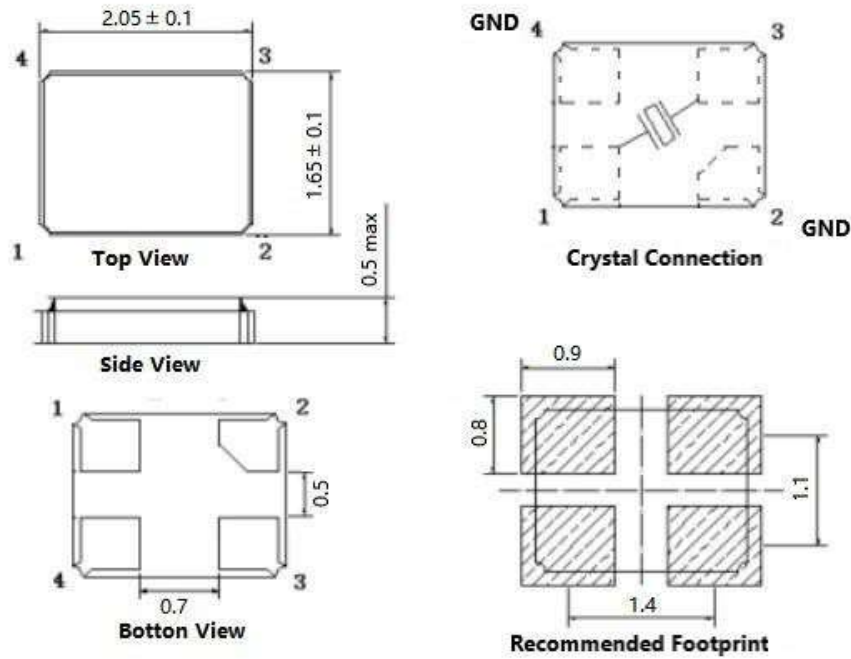
Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Jieshu ZHENG	2024/9/5

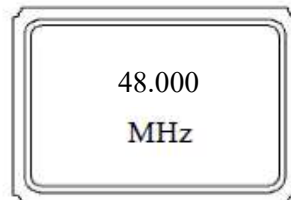
1、Electrical Parameter

MODEL :		DPX2148M000006AA01					
For Automotive							
No.	Parameters	SYM.	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Specification	-	2016			-	
2	Nominal Frequency	FL	48.000			MHz	
3	Oscillation Mode	-	Fundamental			-	
4	Load Capacitance	CL	6			pF	
5	Frequency Tolerance	-	-10		10	$\times 10^{-6}$	At 25°C
6	Frequency Stability	-	-50		50	$\times 10^{-6}$	Over Operating Temperature Range (Reference 25 °C)
7	Operating Temperature	Topr	-40		125	°C	
8	Storage Temperature	Tstg	-55		125	°C	
9	Drive Level	DL	-	100	-	μ W	
10	Equivalent Series Resistance	ESR			60	Ω	
11	Shunt Capacitance	C0			3	pF	
12	Insulation Resistance	IR	500			M Ω	At DC 100V
13	Aging	-	-3		3	$\times 10^{-6}$	First year at 25°C
14	Standard		AEC-Q200				

2、 Mechanical Structure

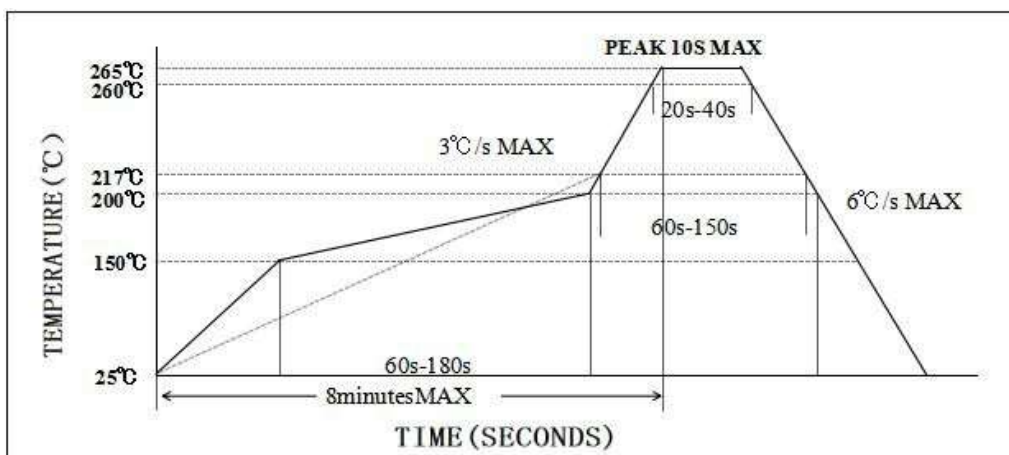


3、 Marking

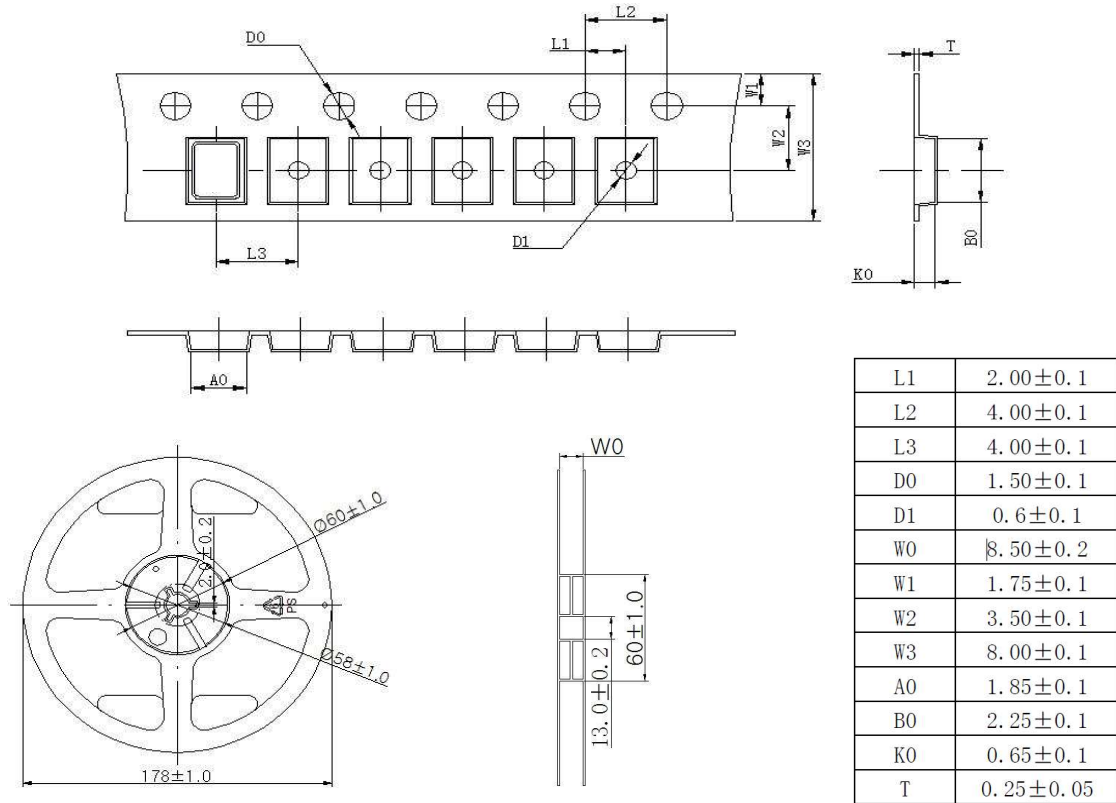


48.000 ----- Nominal frequency

4、 Reflow Soldering Curve (RoHS)

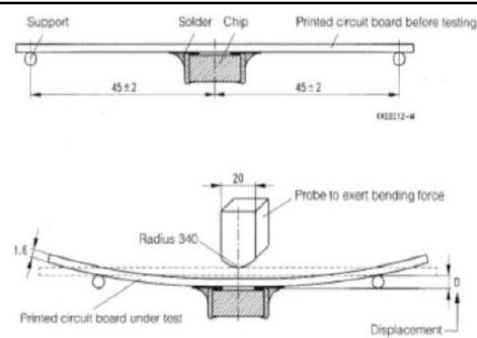
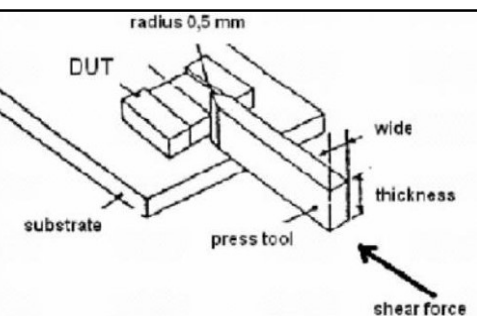


5、 Package: Tape & Reel (mm)



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°C 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°C 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

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°C time: 10s±1s.	A
8	Solderability	J-STD-002	Soldering temperature:245±5°C 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	Frequency Variation: Within ± 5 ppm or meet customer specifications.
B	Frequency Variation: Within ± 10 ppm or meet customer specifications.
C	Resonant resistance (RR) variation: within $\pm 20\%$ or 5Ω (whichever is greater).
D	Test after 24 ± 2 hours under normal temperature and humidity.
E	At least 95% of the immersed end is covered with new welding material.