

Customer Code: \_\_\_\_\_

# DATASHEET

DAPU P/N: DPX3216M000006AA

DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Jack	David	William	
Date: 2021.10.23			

## Guangdong Dapu Telecom Technology Co.,Ltd

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**MODEL: DPX3216M000006AA**

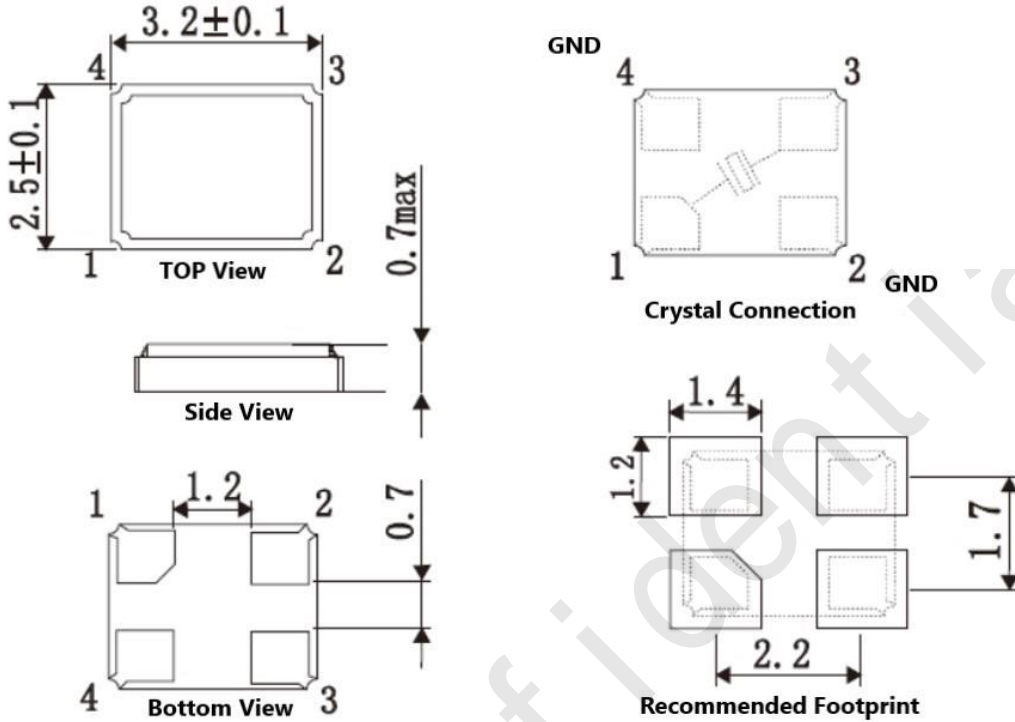
**For Automotive**

No.	Parameters	SYM.	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Standard	-	Conforms to AEC-Q200				
2	Nominal Frequency	FL	16.00			MHz	
3	Oscillation Mode	-	Fundamental				
4	Load Capacitance	CL	6			pF	
5	Frequency Tolerance	-	-20		+20	$\times 10^{-6}$	At 25°C
6	Frequency Stability	-	-50		+50	$\times 10^{-6}$	Over Operating Temperature Range (Reference 25°C)
7	Operating Temperature	Topr	-40	~	+105	°C	
8	Storage Temperature	Tstg	-55		+125	°C	
9	Drive Level	DL			100	$\mu$ W	
10	Equivalent Series Resistance	ESR			60	$\Omega$	
11	Shunt Capacitance	-			2.0	pF	
12	Insulation Resistance	IR	500			M $\Omega$	At DC 100V
13	Aging	-	-3		+3	$\times 10^{-6}$	First year at 25°C



## 2、 Mechanical Structure(mm)

### 2.1 Dimensions



### 2.2 Marking



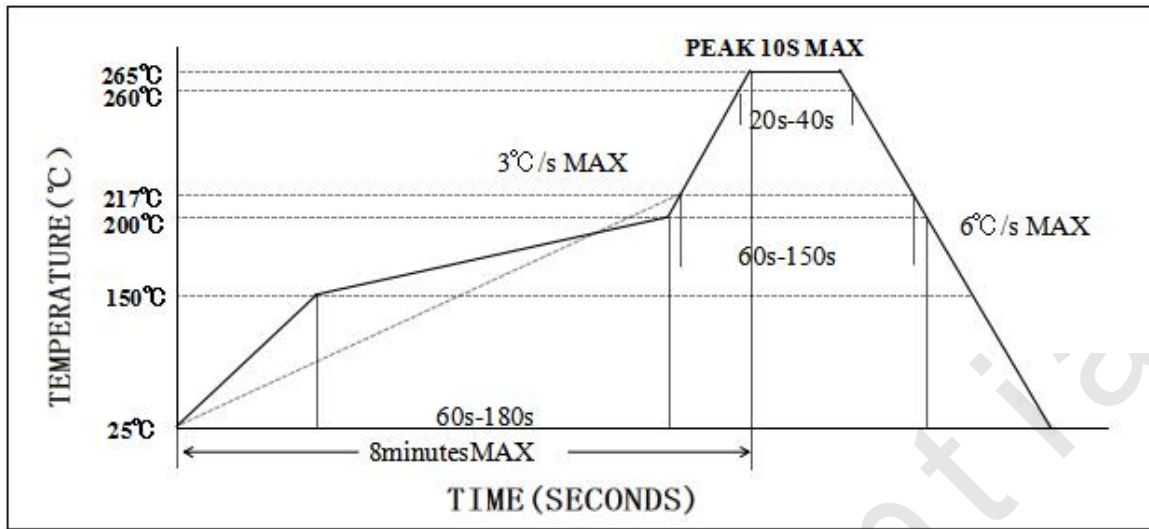
----- DAPU LOGO

16.000 ----- Frequency

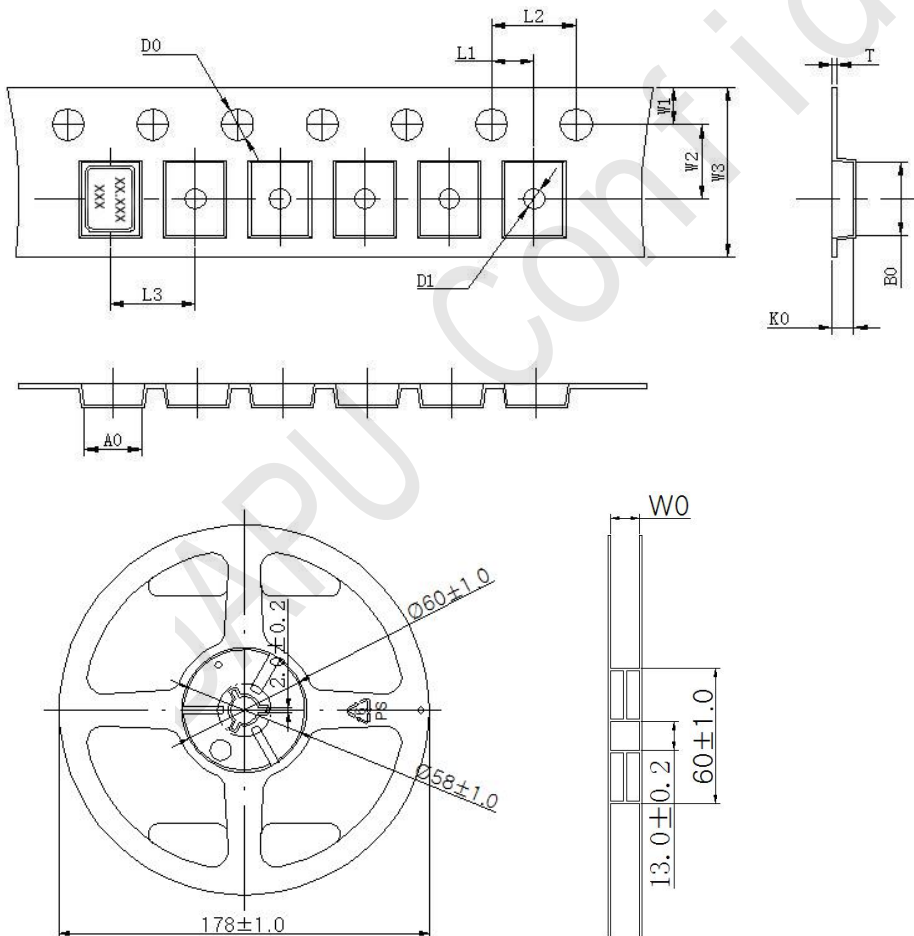
XXYY ----- Manufactured day: XX YY  
Year Week



### 3、 Reflow Soldering Curve(RoHS)



### 4、 Package: Tape & Reel (mm)



L1	2.00±0.1
L2	4.00±0.1
L3	4.00±0.1
D0	1.50±0.1
D1	1.00±0.1
W0	8.30±0.2
W1	1.75±0.1
W2	3.50±0.1
W3	8.00±0.1
A0	2.72±0.1
B0	3.46±0.1
K0	1.00±0.1
T	0.25±0.05



## 5、 Electro-static Discharges

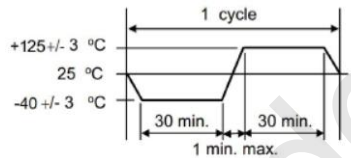
HBM: Class3A

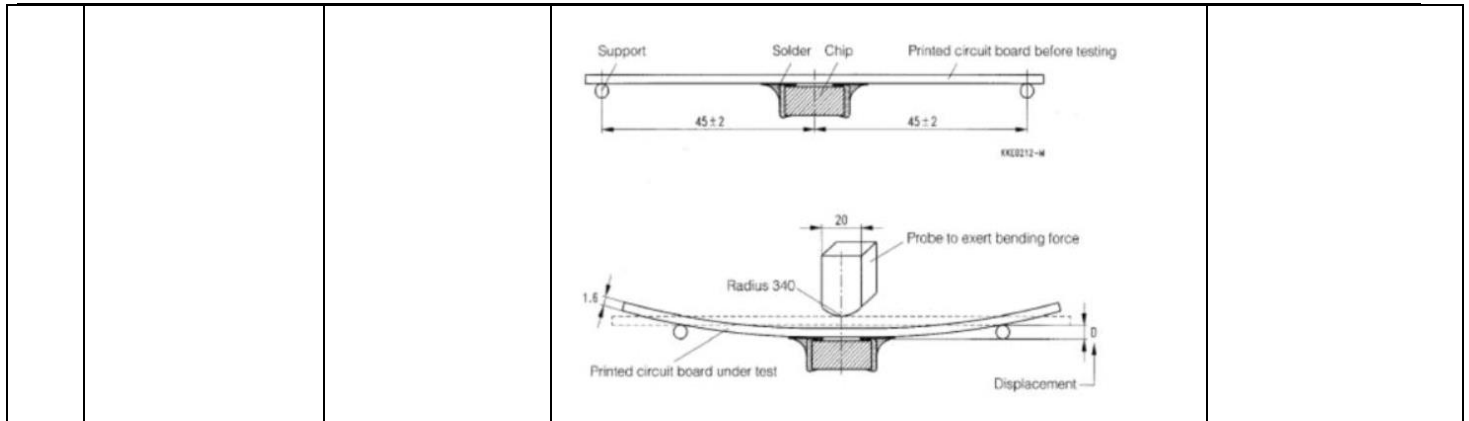
MM: ClassC

CDM: ClassIV

## 6、 Reliability Test Specification

### 5.1 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 $125^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 1000 hours.	A、 C、 D
2	Temperature cycle	JESD22 Method JA-104	Crystal do 1000 cycles according to the table below temperature. 	A、 C、 D
3	Temperature and humidity	MIL-STD-202 Method 103	The crystal is placed for 1000 hours at a temperature of $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and a humidity of 85% Time.	A、 C、 D
4	shock	MIL-STD-202 Method 213	shock method:half sine wave 100G Duration:6ms Direction:X, Y, Z Axial, 6 faces, 18 shocks in total.	A、 C
5	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、 C
6	Resistance to soldering heat	MIL-STD-202 Method 210	Reflow soldering: Peak temperature: $260 \pm 5^{\circ}\text{C}$ , time: $10\text{s} \pm 1\text{s}$ .	A、 C、 D
7	Solderability	J-STD-002	Soldering temperature: $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Immersion time:5 seconds $\pm$ 0.5 seconds Flux:Rosin Resin Methanol Solvent ( 1 : 4 )	E
8	Panel bending	AEC-Q200-005	Apply pressure to the center of the product until it bends to a minimum of 2mm and keep $60 \pm 5$ seconds.	A、 C



9	Terminal strength	AEC-Q200-006	<p>Apply a force of 1.8Kg laterally for 60±1 seconds.</p>	AC
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5.2 Test judgment

Specification	
A	Frequency Variation: Within ±5ppm or meet customer specifications.
B	Frequency Variation: Within ±10ppm or meet customer specifications.
C	Resonant resistance (RR) variation: within ±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.

**Notes**

- \* This product meets the requirements of environmental protection standards, please contact us when you need a test report.
- \*This product is suitable for automotive applications such as car multimedia, car navigation, clock, PEPS, etc., if there are applications in automobile driving safety such as engine control unit, brake system control unit, airbag, electronic stability control program, etc., please communicate with us in advance.