Customer Code:_____

DATASHEET

DAPU P/N: **DPZ3212M288033AA**

DAPU			Customer Approval
Drew	Audited	Approved	
Jack	David	William	
Date: 2022.10.13			Stamp, please! Thanks!

Guangdong Dapu Telecom Technology Co.,Ltd

Building 5, No.24, Industrial East Road, Songshanhu Park, Dongguan, Guangdong, P.R. China

TEL：0086-0769-88010888 FAX：0086-0769-81800098

Building 5, No.24, Industrial East Road,
Songshanhu Park, Dongguan,
Guangdong, P.R. China
TEL:0086-0769-88010888
FAX:0086-0769-81800098

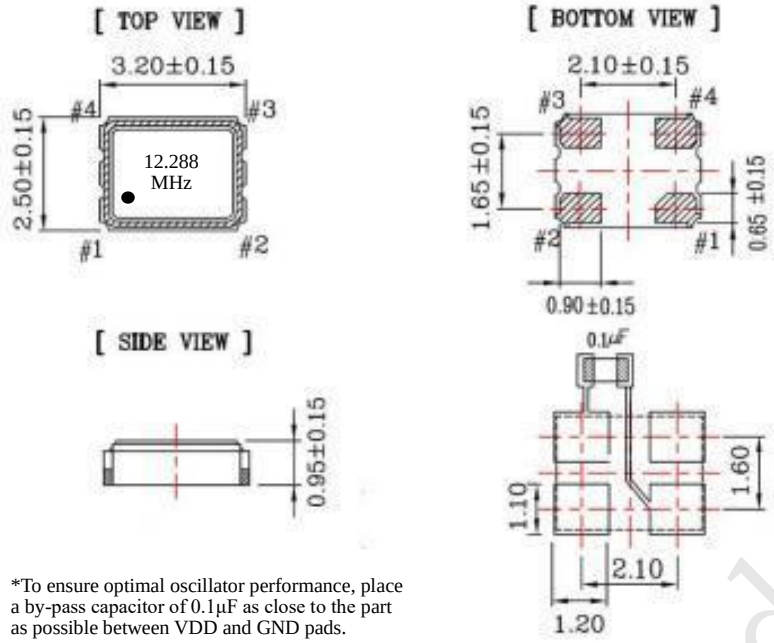
1、 Electrical Parameters

MODEL：DPZ3212M288033AA
For Automotive

No.	Parameters	SYM.	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Standard	-	Conforms to AEC-Q100				
2	Nominal Frequency	FL	12.288			MHz	
3	Oscillation Mode	-	Fundamental				
4	Frequency Stability	-	-20		+ 20	$\times 10^{-6}$	At 25℃
5	Frequency Stability	-	-35		+ 35	$\times 10^{-6}$	Over Operating Temperature Range（Reference 25℃）
6	Operating Temperature	Topr	-40	~	+ 105	℃	
7	Storage Temperature	Tstg	-55	~	+ 125	℃	
8	Supply Voltage	V_{DD}	2.97	3.3	3.63	V	$V_{DD\pm}$10%
9	Input Current	Icc			10	mA	
10	Output waveform	-	CMOS				
11	Output Load	CL	15			pF	
12	Output Voltage High	V_{OH}	90%			V_{DD}	
13	Output Voltage Low	V_{OL}			10%	V_{DD}	
14	Rise/Fall Time	Tr、 T_f			5	ns	10%-90%V_{DD} Level
15	Aging	-	-3		+ 3	$\times 10^{-6}$	First Year at 25℃
16	Tri-State Output Enable	-	70%			V_{DD}	Pin 1, OE
17	Tri-State Output Disable	-			30%	V_{DD}	Pin 1, OE
18	Duty Cycle	-	45	~	55	%	
19	Start-Up Time	Tstart			2	ms	Measured from the time V_{DD} reaches its rated minimum value

Building 5, No.24, Industrial East Road,
Songshanhu Park, Dongguan,
Guangdong, P.R. China
TEL:0086-0769-88010888
FAX:0086-0769-81800098

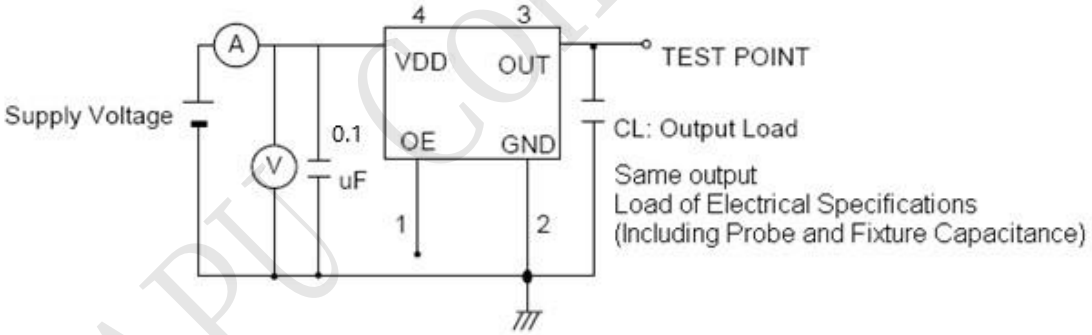
2、Mechanical Structure(mm)



*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}

3、Test Circuit



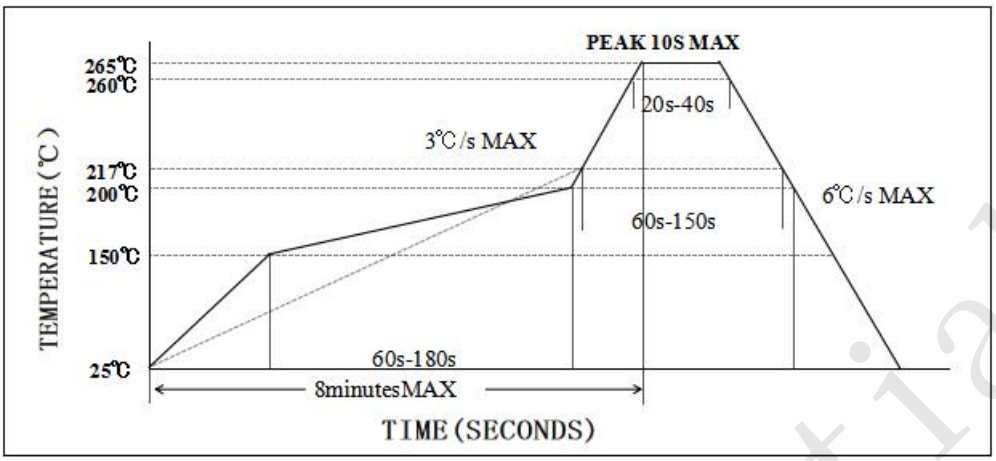
Control input (output enable/disable)

Logic 1 or open on pad 1: Oscillator output

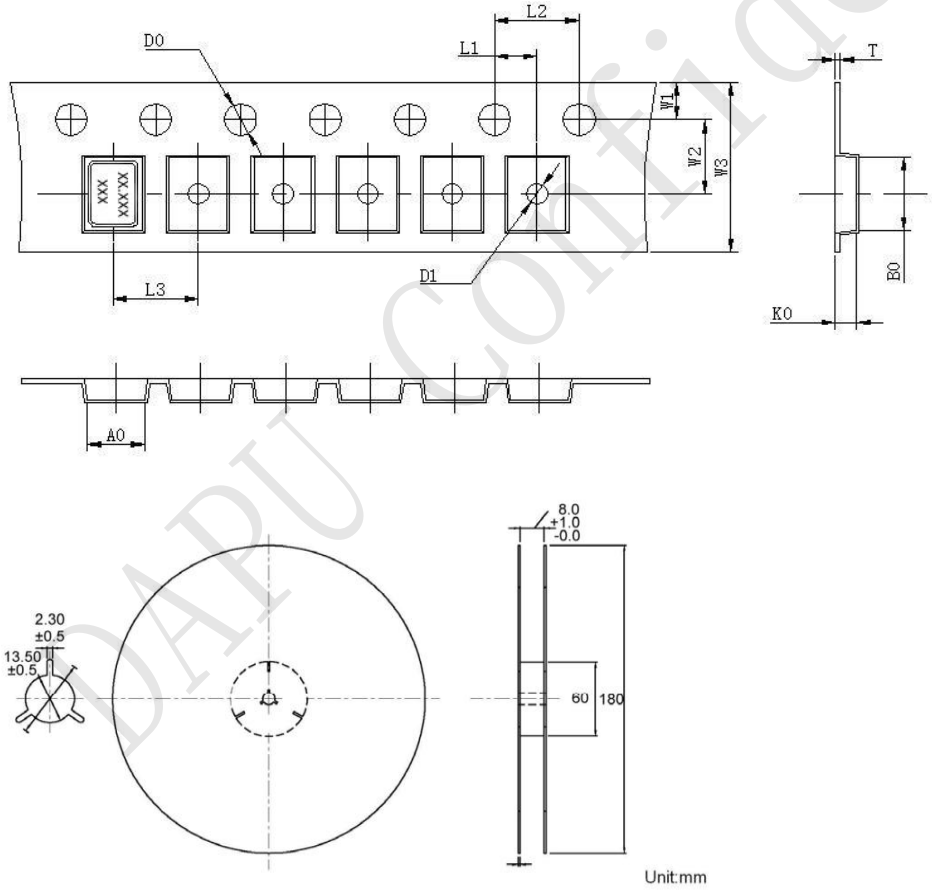
Logic 0 on pad 1 : Disable output to high impedance

Building 5, No.24, Industrial East Road,
Songshanhu Park, Dongguan,
Guangdong, P.R. China
TEL:0086-0769-88010888
FAX:0086-0769-81800098

4、Reflow Soldering Curve (RoHS)



5、Package: Tape & Reel (mm)

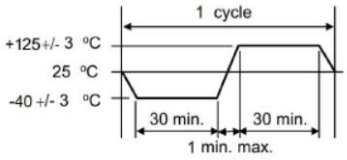


L1	2.00±0.1
L2	4.00±0.1
L3	4.00±0.1
D0	1.55±0.05
D1	1.20±0.5
W1	1.75±0.1
W2	3.50±0.1
W3	8.00±0.2
A0	2.7±0.1
B0	3.4±0.1
K0	1.40±0.1
T	0.25±0.05

Building 5, No.24, Industrial East Road,
Songshanhu Park, Dongguan,
Guangdong, P.R. China
TEL:0086-0769-88010888
FAX:0086-0769-81800098

6、Reliability Test Specification

6.1 Reliability Test

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	Crystal 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 125°C ± 2°C for 1000 hours (applied rated VDD).	A
5	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
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 seconds ± 0.5 seconds Flux:Rosin Resin Methanol Solvent (1 : 4)	B

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.