Customer Code: _____

DATASHEET

DAPU P/N: **O79A-M312-20.00MHz-A**

Customer P/N: _____

DAPU			Customer Approval
Drew	Audited	Approved	
Amway.wei	Xu ming	Jason zhao	
Date: 2024.01.10			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	The first issued	Amway	2024.01.10

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1. Electrical Parameters

MODEL： O79A-M312-20.00MHz-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		20.00		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.4	V	V_{cc}=3.3V, O_{load}=15pF
	Output High Voltage	2.4			V	V_{cc}=3.3V, O_{load}=15pF
	Duty Cycle	45		55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Load		15		pF	
	Frequency Tolerance vs. Operating Temperature Range	-0.02		+0.02	$\times 10^{-6}$	T_A varied from -40℃ to 85℃, measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, O_{load}=15pF,temperature variable speed less than 2℃per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.65V, at time of shipment.
	Frequency Tolerance vs. Supply Voltage	-5		+5	$\times 10^{-9}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.135V to 3.465V, V_c =1.65V and O_{Load}=15pF.
	Frequency Tolerance vs. Load	-5		+5	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.65V, and O_{Load}=15pF.
	Frequency Slope	-1		+1	$\times 10^{-9}$/℃	Temperature ramp ≤1℃/minute
	Short-Term Stability: Allan Variance		80		$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1s.
	Free-run Accuracy	-4.6		+4.6	$\times 10^{-6}$	All causes,20years life, reference to Fn.
	Aging Tolerance Per Day	-2		+2	$\times 10^{-9}$	V_{cc}, T_A constant measurement referenced to frequency observed with T_A=25℃, V_{cc}= 3.3V, V_c =1.65V, and after 30 days of operation.
	Aging Tolerance Per Year	-0.5		+0.5	$\times 10^{-6}$	

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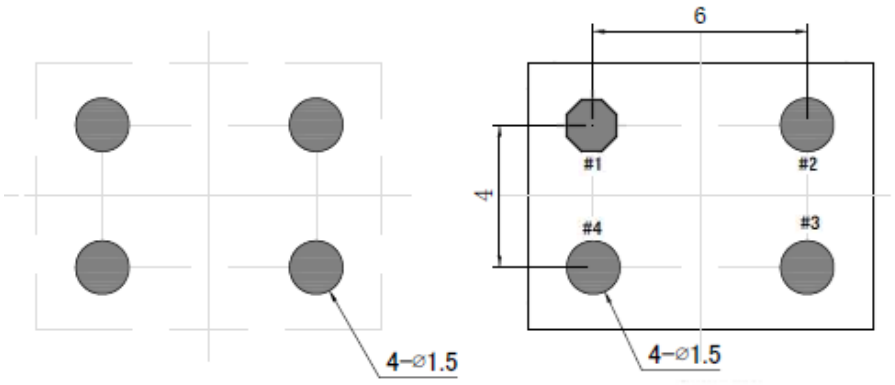
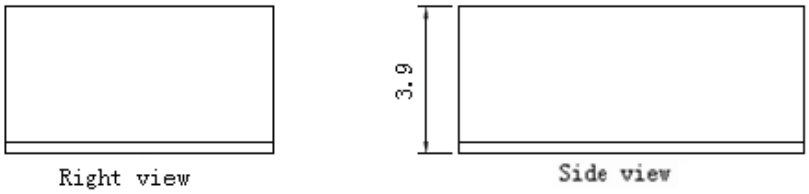
Power Supply	Supply Voltage	3.135	3.3	3.465	V	
	Steady Consumption			230	mA	@25℃
	Warm up current			600	mA	
Voltage Control Characteristics	Frequency Tuning Range	-3.3		-1.9	$\times 10^{-6}$	V_c=0V. measurement referenced to V_c=1.65V
		-0.1		+0.1	$\times 10^{-6}$	V_c=1.65V. measurement referenced to exactly 20.00MHz，at time of shipment.
		+1.9		+3.3	$\times 10^{-6}$	V_c=3.3V. measurement referenced to V_c=1.65V
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise @25℃		-78	-70	dBc/Hz	1Hz
			-110	-105		10Hz
			-138	-133		100Hz
			-152	-147		1KHz
			-157	-152		10KHz
			-158	-155		100KHz
			-163	-160		1MHz
Jitter	RMS		0.28	1.5	ps	12kHz~5MHz
Environmental Conditions	Operating Temperature	-40		+85	℃	
	Operable Temperature	-45		+105	℃	
	Storage Temperature	-55		+105	℃	
	ESD Level	Human Body Model, class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.				
	Moisture Sensitivity Level	Level 3.				
	Vibration	Test Condition: 0.75mm ;acceleration:10g;10Hz～500Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z), IEC 68-2-06 Test Fc.				
	Shock	50g; 11ms; half sine wave (3 times for each 3 directions X, Y, Z), IEC 68-2-27 Test Ea/Severity 50A.				
Full Package Storage	Relative humidity (%)	20%～70%				
	Temperature (℃)	-10~35℃				

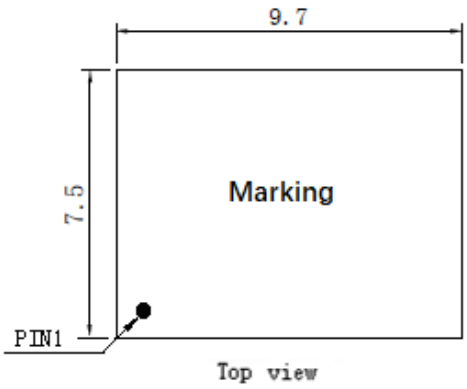
2. Mechanical Structure (mm)



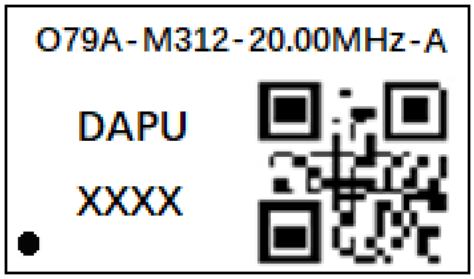


Pin Function

Pin	Function
1	VC
2	GND
3	OUTPUT
4	VCC



Marking:

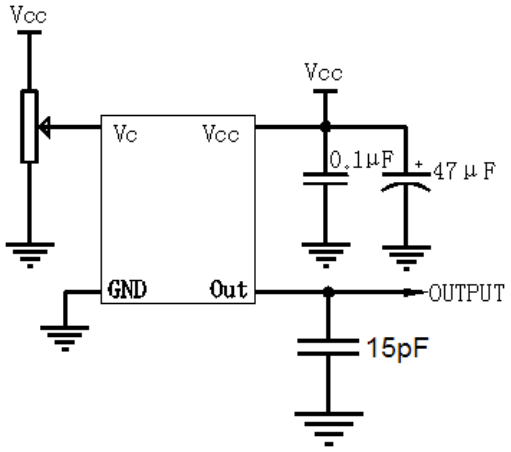


Note1: Tolerance ± 0.30mm without mark

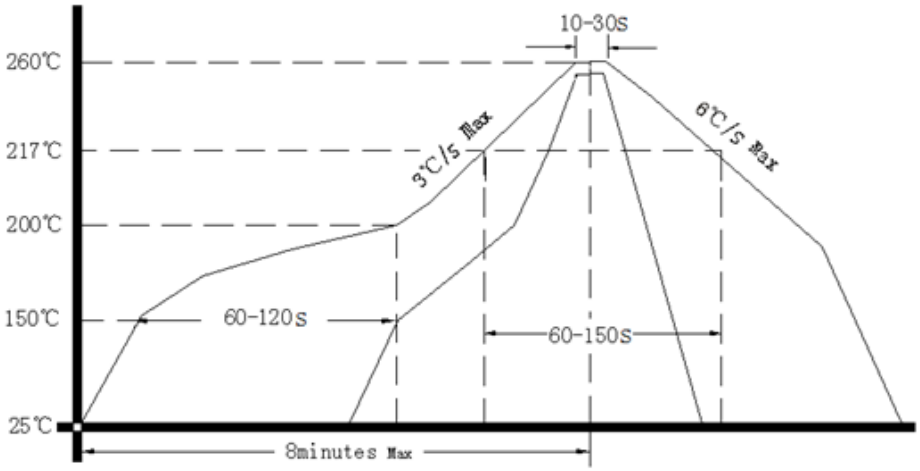
Note2: The first two xx representative: week
After two xx representative: year

Note3: Referential weight 0.4g

3. Test Circuit



4. Reflow Soldering Curve (RoHS)



Note: passing through reflow upside down is not supported

5. Package: Tape & Reel (mm)