

Customer Code: _____

DATASHEET

DAPU P/N: 079A-K312-30.72MHz

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.11.18			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2022.11.18



1. Electrical Parameters

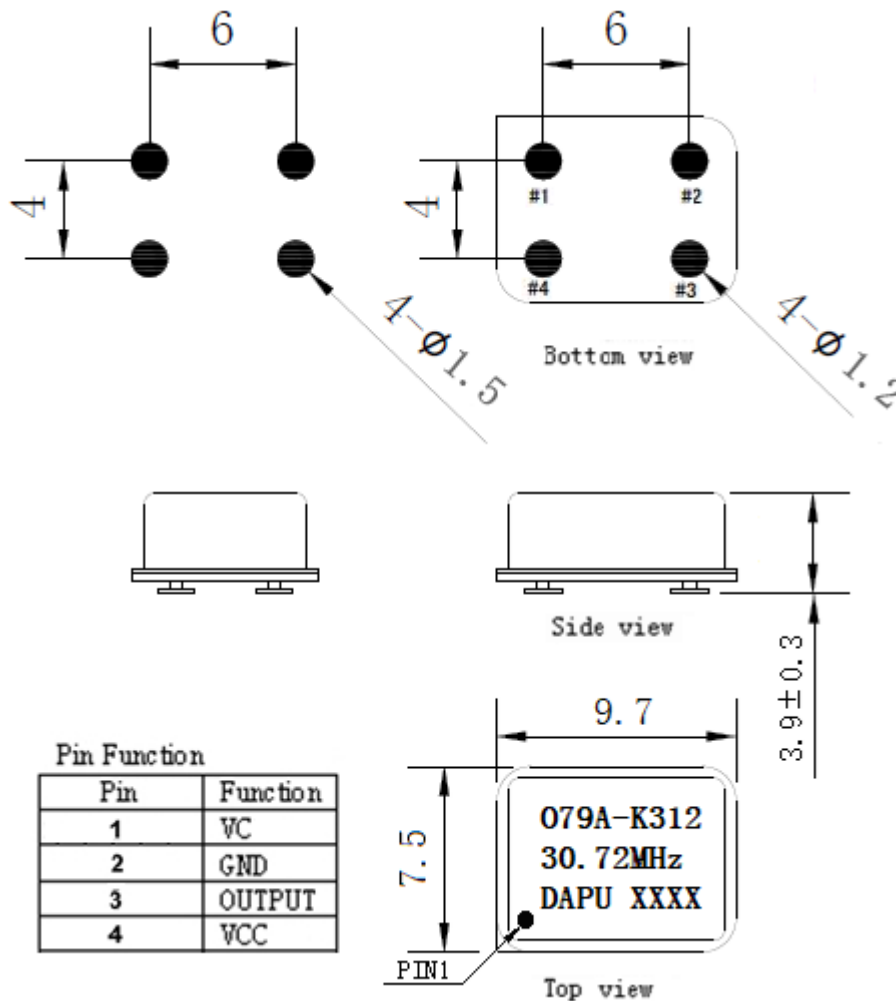
MODEL: O79A-K312-30.72MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	30.72			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Load	15			pF	
	Frequency Tolerance vs. Operating Temperature Range	-0.01		+0.01	$\times 10^{-6}$	T_A varied from $-40^{\circ}C$ to $85^{\circ}C$, measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, O_{load}=15pF$, temperature variable speed less than $2^{\circ}C$ per minute.
	Initial Frequency Tolerance	-0.5		+0.5	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V$, and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.01		+0.01	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^{\circ}C, V_{cc}$ varied from 3.135V to 3.465V, $V_c=1.65V$ and $O_{Load}=15pF$.
	Frequency Tolerance vs. Load	-0.01		+0.01	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V$, and $O_{Load}=15pF$.
	Frequency Slope	-0.5		+0.5	$\times 10^{-9}/^{\circ}C$	Temperature ramp $\leq 1^{\circ}C$ /minute
	G-Sensitivity			1	$\times 10^{-9}/G$	Gamma vector of all three axes from 30Hz to 1500Hz
	Aging Tolerance Per Day	-3		+3	$\times 10^{-9}$	V_{cc}, T_A constant measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V$, and after 30 days of operation.
Aging Tolerance Per Year	-0.3		+0.3	$\times 10^{-6}$		
Aging Tolerance 10 Year	-2.5		+2.5	$\times 10^{-6}$		



Power Supply	Supply Voltage	3.135	3.3	3.465	V	
	Steady Consumption			240	mA	@25°C
	Warm up current			500	mA	
	Warm-Up Time			3	minutes	@25°C within $\pm 0.05 \times 10^{-6}$ of final Frequency with reference after 1 hour on.
Voltage Control Characteristics	Frequency Tuning Range			-1.5	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.65V$
		-0.5		+0.5	$\times 10^{-6}$	$V_c=1.65V$. measurement referenced to exactly 30.72MHz
		+1.5			$\times 10^{-6}$	$V_c=3.3V$. measurement referenced to $V_c=1.65V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			K Ω	
Phase Noise	Phase Noise @25°C		-105	-100	dBc/Hz	10Hz
			-135	-130		100Hz
			-157	-152		1KHz
			-160	-155		10KHz
			-160	-155		100KHz
			-161	-155		1MHz
Jitter	Jitter			0.5	ps	RMS@12KHz to 5MHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+105	°C	
	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 1.				
	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 (°C)	-10~35°C				



2. Mechanical Structure (mm)



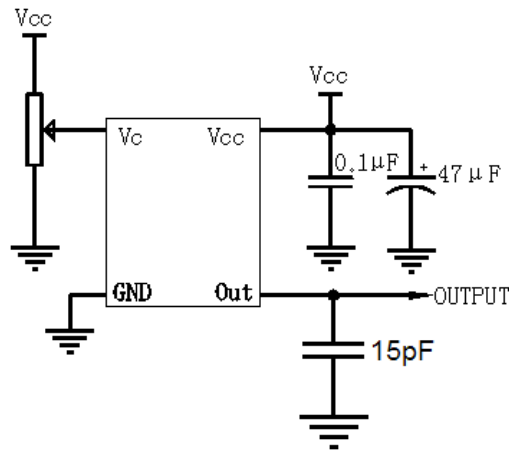
Note1: Tolerance ± 0.30 mm without mark

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

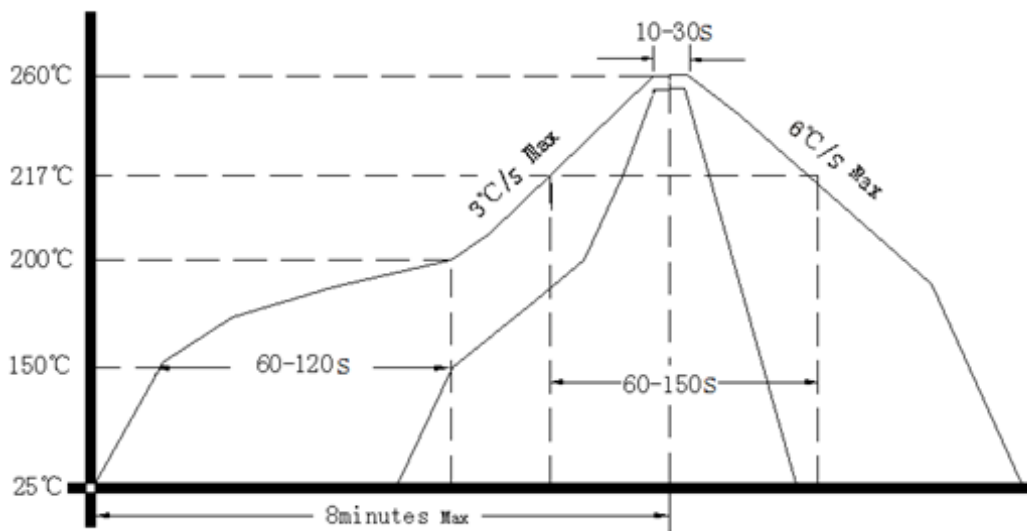
Note3: Referential weight 0.7g



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



Note: passing through reflow upside down is not supported



5. Package: Tape & Reel (mm)

