

Customer Code : _____

DATASHEET

DAPU P/N: 079A-S313-38.40MHz

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2021.10.10			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2021.10.10



1. Electrical Parameters

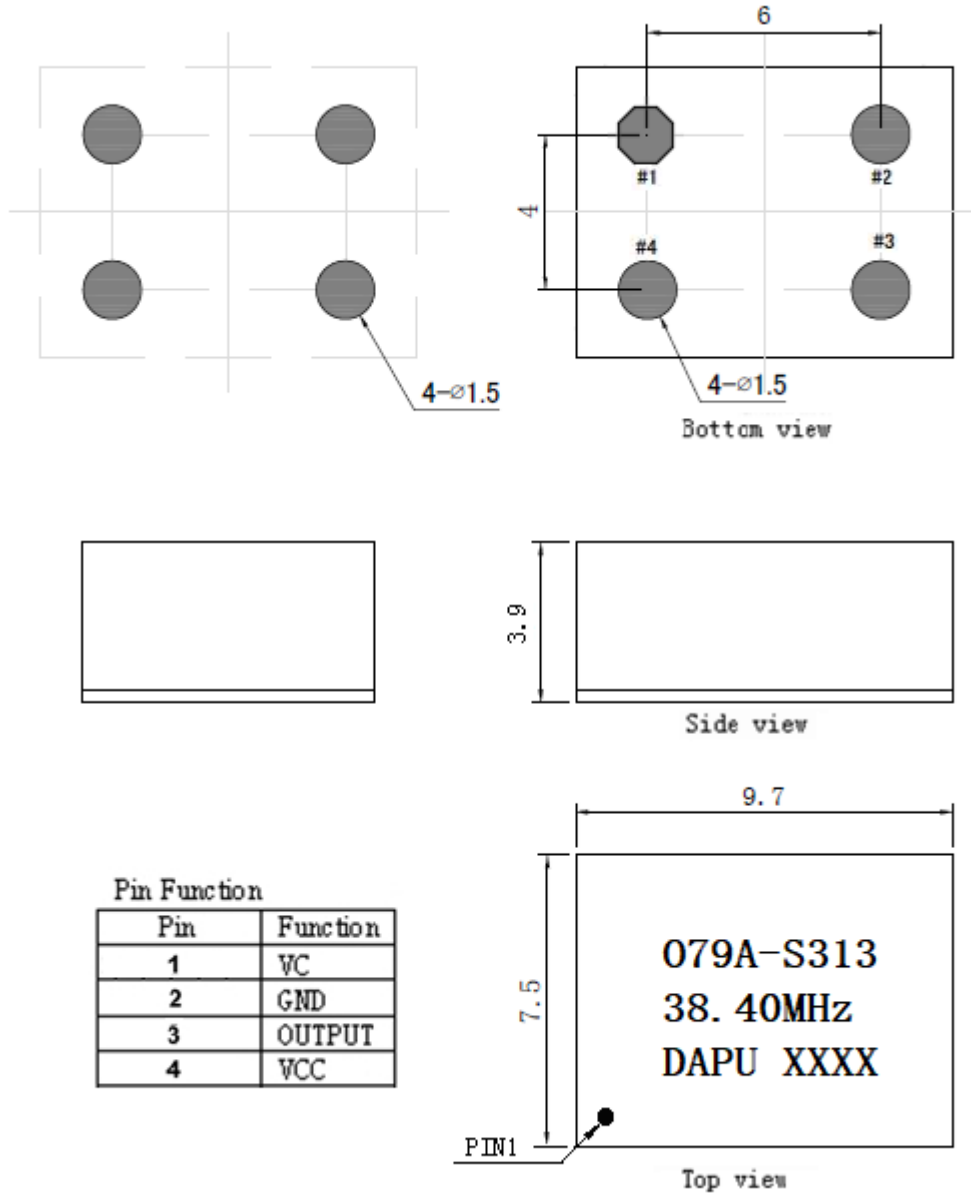
MODEL: O79A-S313-38.40MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	38.40			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.05		+0.05	$\times 10^{-6}$	T_A varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.5V, O_{load}=15\text{pF}$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-0.5		+0.5	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$, 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 $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, $V_c=1.5V$ and $O_{load}=15\text{pF}$.
	Frequency Tolerance vs. Load	-0.01		+0.01	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$, and $O_{load}=15\text{pF}$.
	Reflow shift	-1		+1	$\times 10^{-6}$	After 1 hour recovery at 25°C
	Frequency slope	-2		+2	$\times 10^{-9}/^\circ\text{C}$	$\Delta F/\Delta T$ in still air, Temperature ramp $\leq 1^\circ\text{C}/\text{minute}$
	Acceleration sensitivity		< 2		$\times 10^{-9}/\text{G}$	Gamma vector 3-axes, 30-1500Hz
	Root Allan Variance		0.3		$\times 10^{-9}$	Tau = 1.0s
	Aging Tolerance Per Day	-5		+5	$\times 10^{-9}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$, and after 30 days of operation.
	Aging Tolerance 1 Year	-2		+2	$\times 10^{-6}$	
Power Supply	Steady Consumption			230	mA	@25°C
	Warm Up Current			460	mA	
	Supply Voltage	3.13	3.3	3.47	V	
	Warm Up Time			3	Min	@25°C within $\pm 0.05 \times 10^{-6}$ of final frequency with reference after 1 hour on.



Phase Noise	Phase Noise @25°C		-50	-45	dBc/Hz	1Hz
			-80	-75		10Hz
			-107	-102		100Hz
			-130	-125		1KHz
			-143	-138		10KHz
			-148	-143		100KHz
			-150	-145		1MHz
Modulation Bandwidth	Modulation Bandwidth		3.5		KHz	
Voltage Control Characteristics	Frequency Tuning Range	-15		-7	$\times 10^{-6}$	$V_c=0.5V$. measurement referenced to $V_c=1.5V$
		-0.5		+0.5	$\times 10^{-6}$	$V_c=1.5V$. measurement referenced to Exactly38.40MHz
		+7		+15	$\times 10^{-6}$	$V_c=2.5V$. measurement referenced to $V_c=1.5V$
	Linearity			10	%	
	Slope	Positive				
Input Impedance	100				K Ω	
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+125	°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	Not humidity sensitive.				
	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				



1. Mechanical Structure(mm)



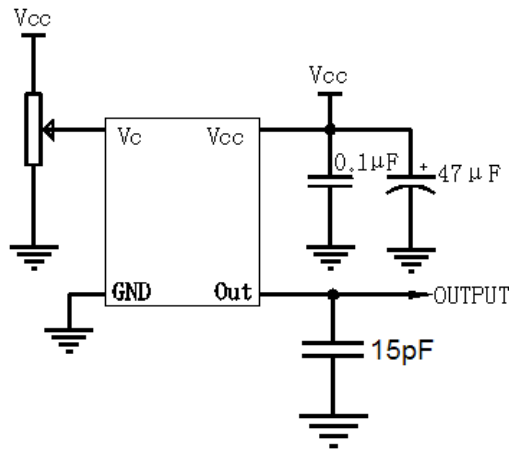
Note1: Tolerance $\pm 0.20\text{mm}$ without mark

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

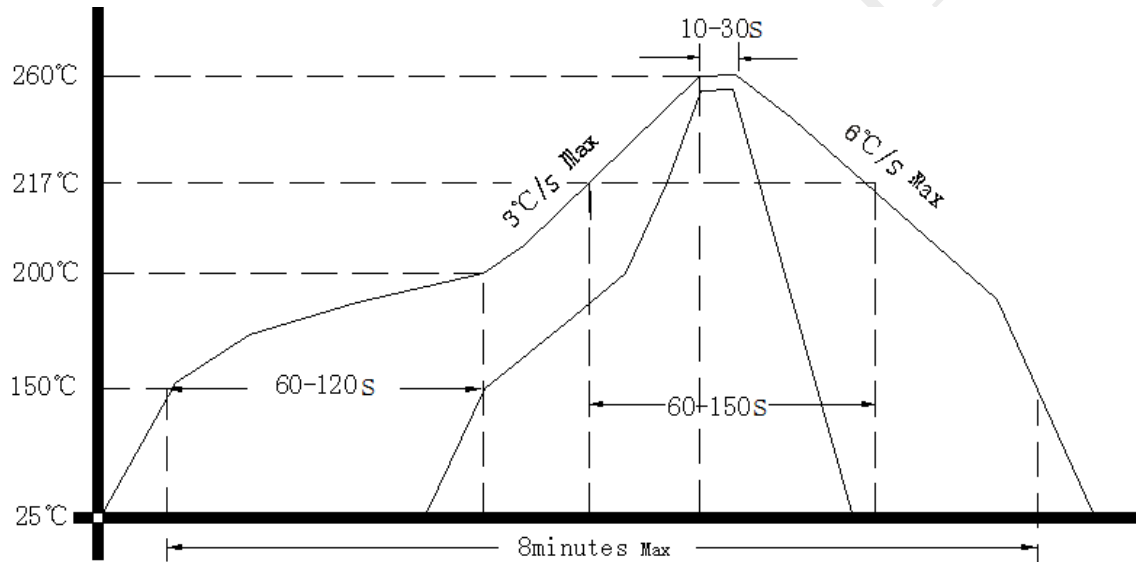
Note3: Referential weight 0.2g



2. Test Circuit



3. Reflow Soldering Curve (RoHS)



4. Package: Tape & Reel (mm)

