

Customer Code : _____

DATASHEET

DAPU P/N: 022S-C313-100.00MHz

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.05.13			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2024.05.13



1. Electrical Parameters

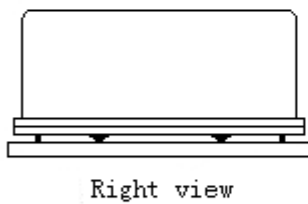
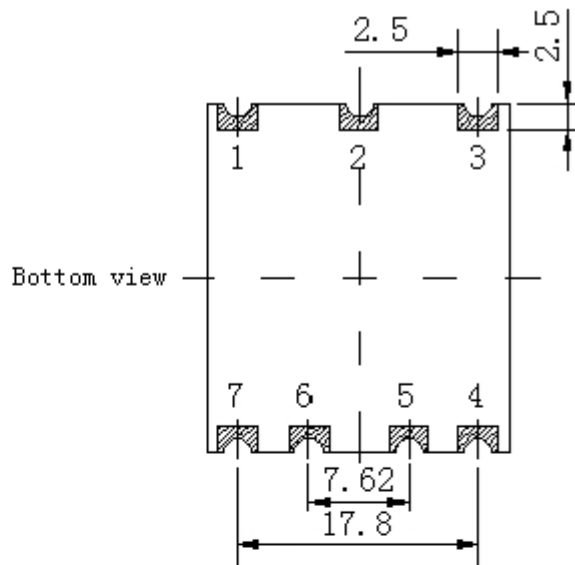
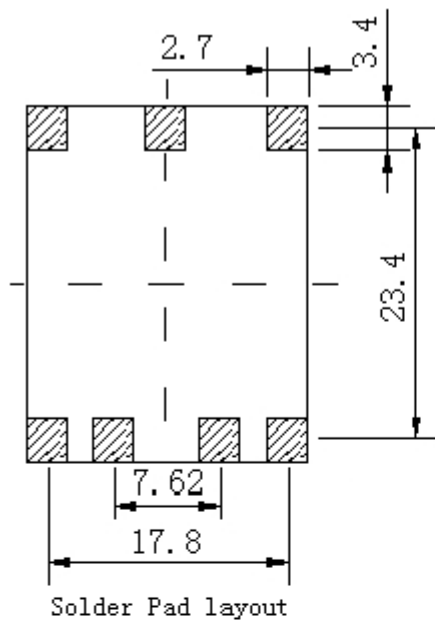
MODEL: O22S-C313-100.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	100.00			MHz	
	Output Waveform	LVCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time			5	ns	(10%~90%)
	Load	15			pF	
Frequency Stabilities	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 $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, O_{load}=15pF$, temperature variable speed less than $2^{\circ}C$ per minute.
	Initial Frequency Tolerance	-0.3		+0.3	$\times 10^{-6}$	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	-10		+10	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^{\circ}C, V_{cc}$ varied from 3.13V to 3.47V, $V_c=1.65V$ and $O_{Load}=15pF$.
	Frequency Tolerance vs. Load	-5		+5	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V$, and $O_{Load}=15pF$.
	Aging Tolerance Per Day	-2		+2	$\times 10^{-9}$	V_{cc}, V_c, T_A constant measurement referenced to frequency observed with $T_A=25^{\circ}C$,
	Aging Tolerance 1 Year	-0.1		+0.1	$\times 10^{-6}$	$V_{cc}=3.3V, V_c=1.65V$, and after 30 days of operation.
Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Reference Voltage	2.6	2.8	3.0	V	
	Steady Consumption			300	mA	@ $25^{\circ}C$
	Warm up current			900	mA	
	Warm-Up Time			15	minutes	@ $25^{\circ}C$ within $\pm 0.1 \times 10^{-6}$ of final Frequency with reference after 1 hour on.



Voltage Control Characteristics	Frequency Tuning Range		-0.7		$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.65V$
		-0.3		+0.3	$\times 10^{-6}$	$V_c=1.65V$. measurement referenced to exactly 10.00MHz
		+0.7			$\times 10^{-6}$	$V_c=3.3 V$. measurement referenced to $V_c=1.65V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K Ω
Phase Noise	Phase Noise @25 $^{\circ}C$		-60	-55	dBc/Hz	1Hz
			-93	-80		10Hz
			-125	-120		100Hz
			-146	-140		1KHz
			-158	-152		10KHz
			-158	-155		100KHz
Environmental Conditions	Operable Temperature	-40		+85	$^{\circ}C$	
	Storage Temperature	-55		+105	$^{\circ}C$	
	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 2.				
	Vibration	Test Condition: 0.75mm ;acceleration:10g;5Hz~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.				
Free fall	100 mm, The frequency difference between before and after the test is less than 2E-7					
Full Package Storage	Relative humidity (%)	20% ~70%				
	Temperature ($^{\circ}C$)	-10~35 $^{\circ}C$				

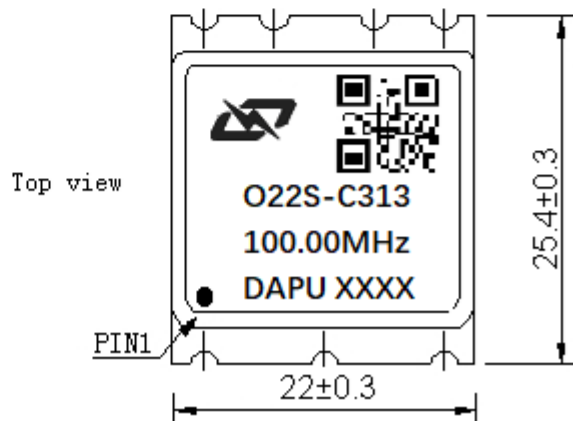


2. Mechanical Structure (mm)



PIN FUNCTION

PIN	NOTATION	FUNCTION
1	VC	Control Voltage
2	VREF	Reference Voltage
3	VCC	Supply Voltage
4	OUTPUT	RF Output
5,6	NC	Not Connect
7	GND	GND



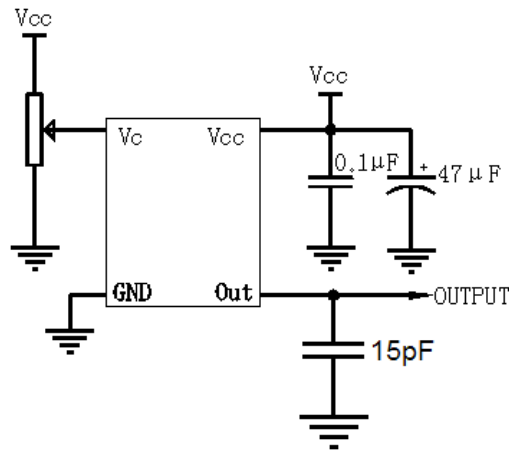
Note1: Tolerance $\pm 0.20\text{mm}$ without mark

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

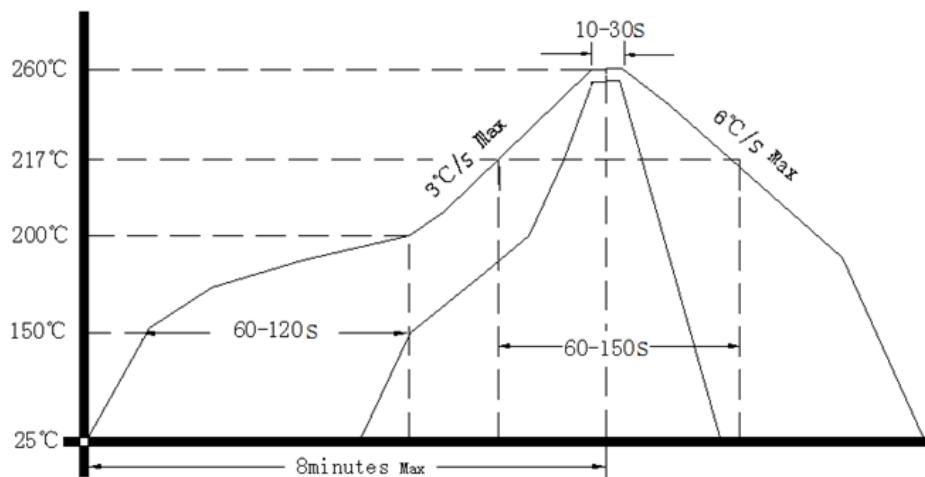
Note3: Referential weight 7.8g



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

5. Package: Tape & Reel (mm)

