

Travelling Merchant: _____

DATASHEET

Standard: **O22S-G316-10.00MHz**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2021.03.12			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2021.03.12

DAPU

Confidential



1. Electrical Parameters

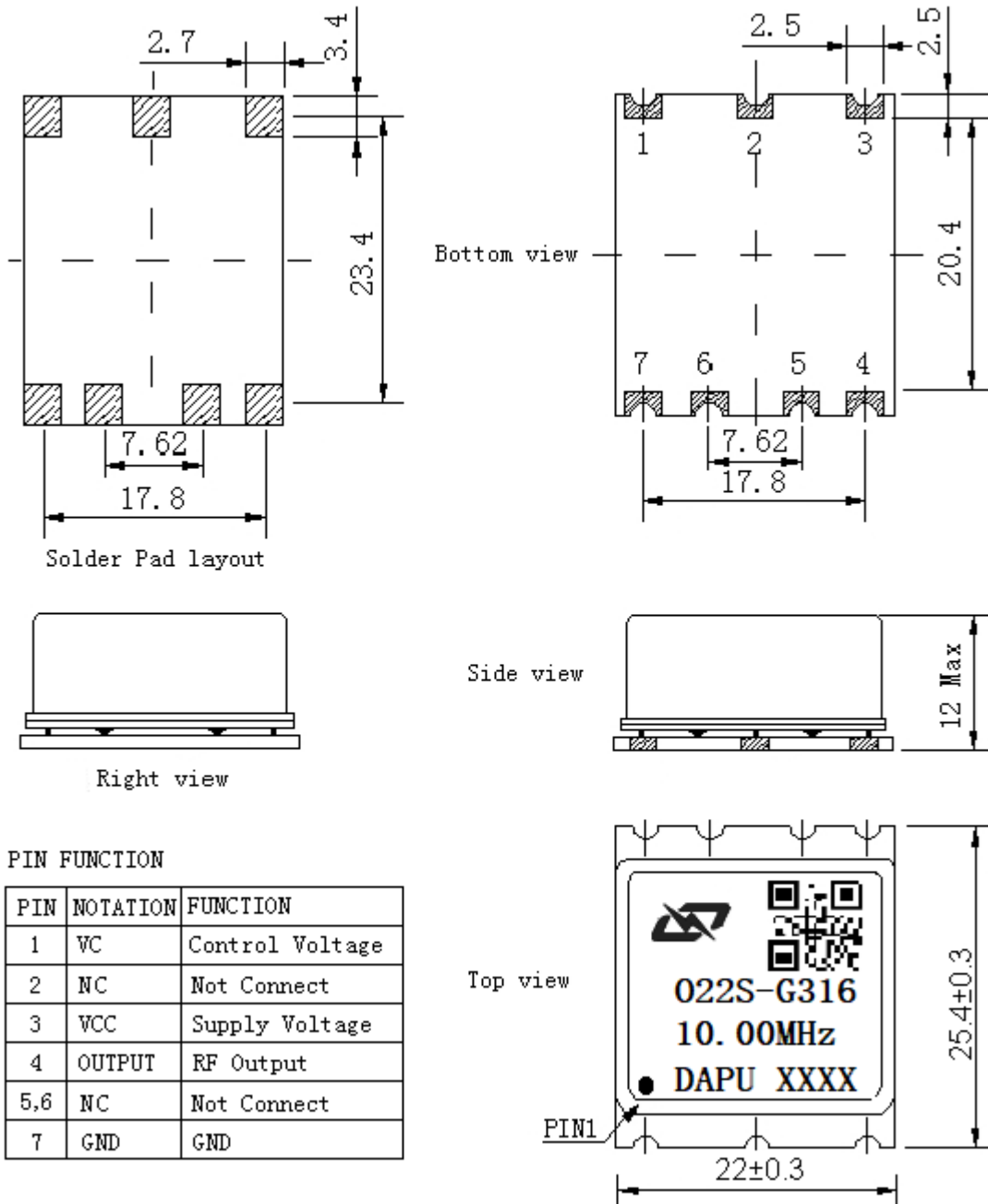
MODEL: O22S-G316-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Spurious			-60	dBC	
	Load	14.25	15	15.75	pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-1		+1	$\times 10^{-9}$	T_A varied from $-40^{\circ}C$ to $85^{\circ}C$, measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V, O_{load}=15pF$, temperature variable speed less than $2^{\circ}C$ per minute.
	Frequency Accuracy	-0.2		+0.2	$\times 10^{-6}$	Within 90 days after shipment and 15 minutes warm up time (before reflow), Measurement referenced to nominal frequency.
		-0.4		+0.4	$\times 10^{-6}$	Within 90 days after shipment and 15 minutes warm up time (after reflow), Measurement referenced to nominal frequency.
	Frequency Tolerance vs. Supply Voltage	-0.5		+0.5	$\times 10^{-9}$	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	-0.5		+0.5	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V$, and $O_{Load}=15pF$.
	Short-Term Stability: Allan Variance			0.01	$\times 10^{-9}$	Temperature stability, no EMI/EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$; 1s.
	Aging Tolerance Per Day	-0.5		+0.5	$\times 10^{-9}$	V_{cc}, V_c, 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 1 Year	-50		+50	$\times 10^{-9}$	



Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			400	mA	@25°C
	Warm up current			1000	mA	
Voltage Control Characteristics	Frequency Tuning Range	-0.8		-0.4	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.65V$
		-0.2		+0.2	$\times 10^{-6}$	$V_c=1.65V$. measurement referenced to exactly 10.00MHz
		+0.4		+0.8	$\times 10^{-6}$	$V_c=3.3V$. measurement referenced to $V_c=1.65V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			K Ω	
Phase Noise	Phase Noise @25°C		-90	-80	dBc/Hz	1Hz
			-125	-115		10Hz
			-145	-135		100Hz
			-150	-145		1KHz
			-155	-150		10KHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-40		+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	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.					



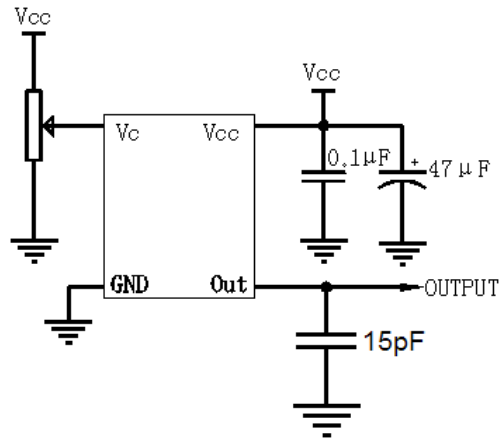
2. Mechanical Structure (mm)



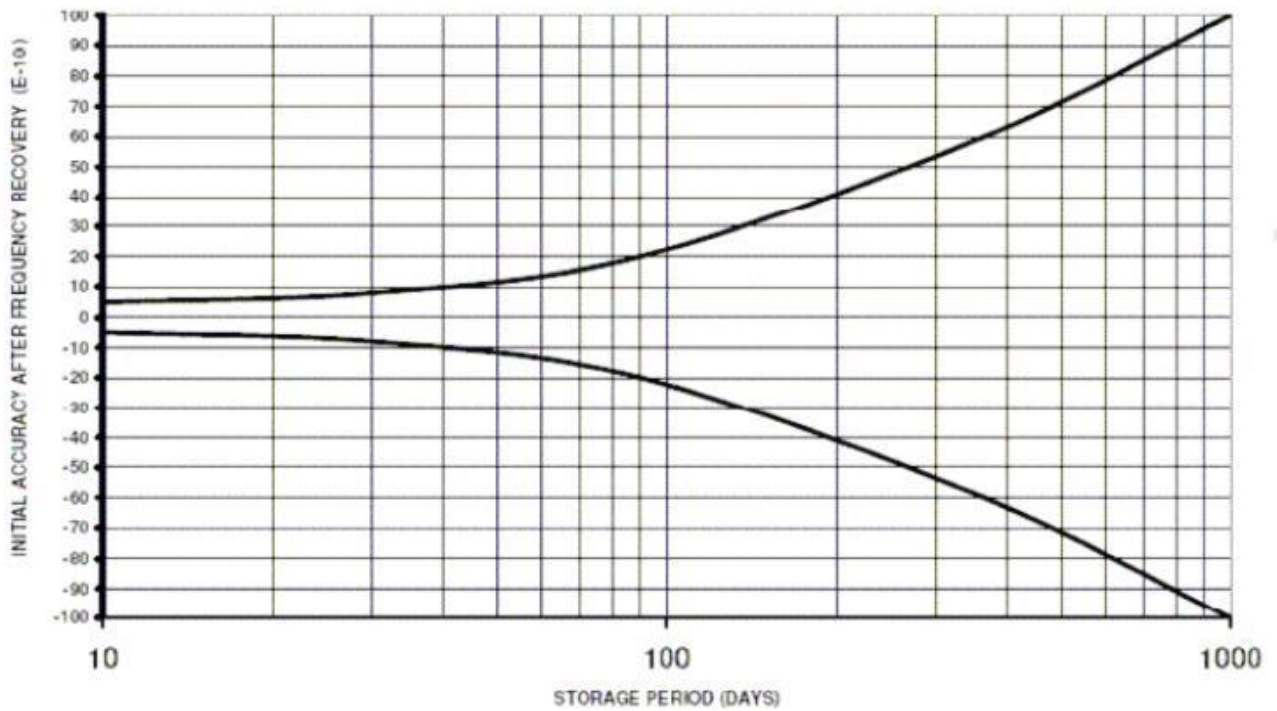
- Note1:** Tolerance $\pm 0.2\text{mm}$ without mark
- Note2:** The first two xx representative: week
After two xx representative: year
- Note3:** Referential Weight 7.8g
- Note4:** NC is not connect



3. Test Circuit



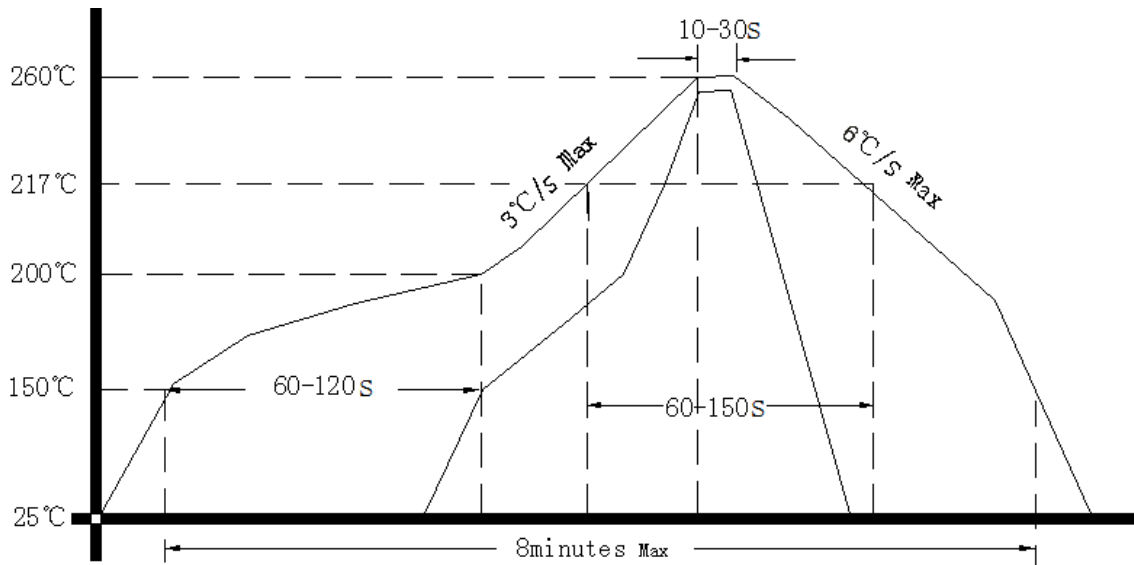
4. Initial accuracy at IQC after frequency recovery



Note: Initial accuracy with time of storage and retrace measured at 25 °C after frequency recovery time



5. Reflow Soldering Curve(RoHS)



6. Package (mm)

