

Customer Code: \_\_\_\_\_

# DATASHEET

DAPU P/N: 022S-Y119-10.00MHz

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.04.08			

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## 1. Electrical Parameters

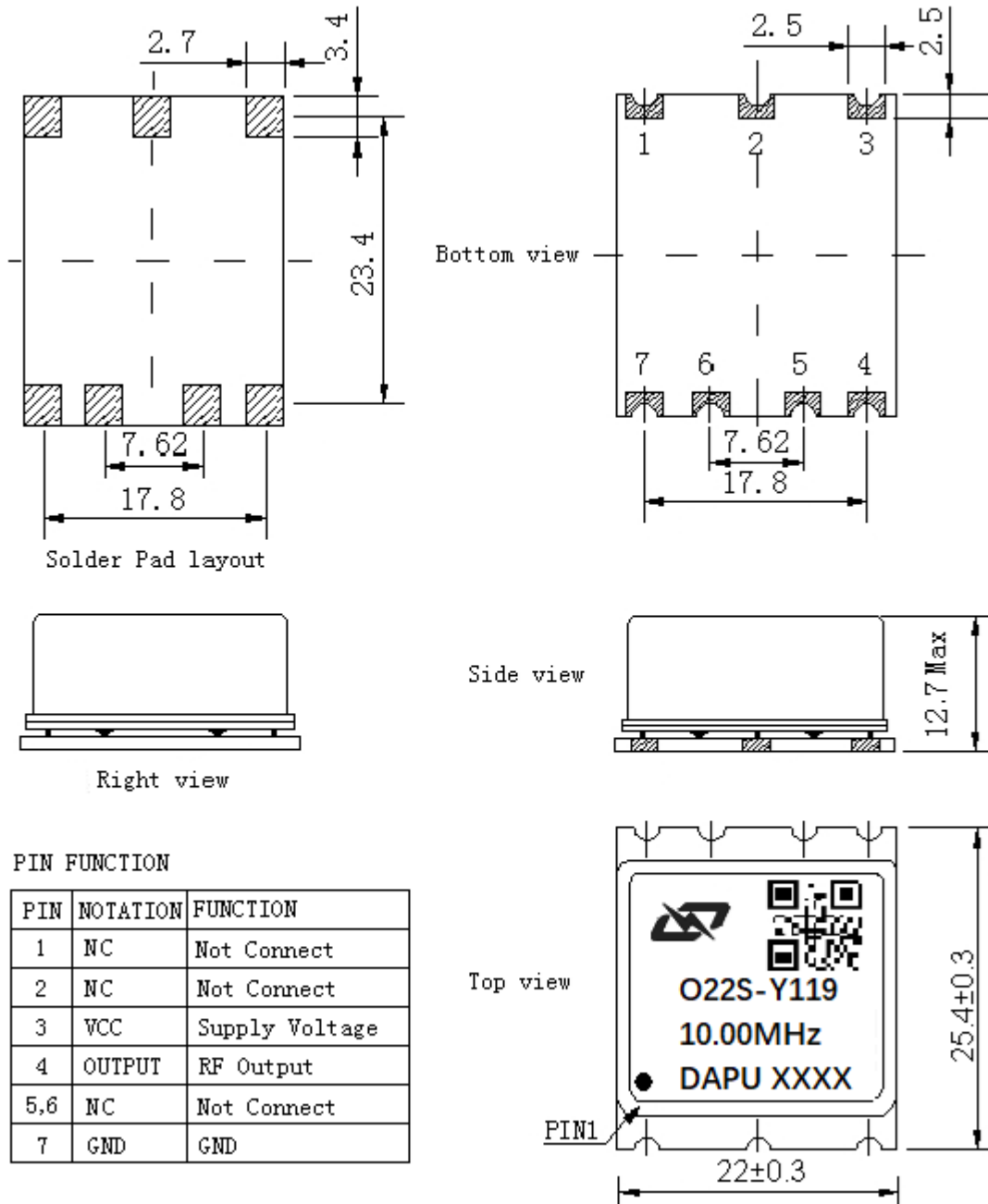
MODEL: O22S-Y119-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	LVTTTL				
	Output Low Voltage			0.4	V	V <sub>cc</sub> =3.3V, Load =15pF
	Output High Voltage	2.4			V	V <sub>cc</sub> =3.3V, Load =15pF
	Duty Cycle	45		55	%	Measurement at -10~70°C
	Spurious Suppression			-90	dBc	
	Rise/Fall Time			4	ns	10%~90%V <sub>CC</sub>
	Load	13.5	15	16.5	pF	
	Start up time			1	s	90%V <sub>cc</sub> to the correct frequency output time
Frequency Stabilities	Frequency Accuracy	-0.9		+0.9	$\times 10^{-6}$	Within 90 days after shipment and 15 minutes warm up time (before reflow), Measurement referenced to nominal frequency
		-1		+1	$\times 10^{-6}$	After 2 hours and 5 minutes warm up time (after reflow), Measurement referenced to the nominal frequency.
	Frequency Stability vs. Operating Temperature Range	-0.2		+0.2	$\times 10^{-9}$	TA varied from -10°C to 70°C, V <sub>cc</sub> =3.3V, and Load = 15pF. Measurement referenced to frequency observed With TA = 25°C, V <sub>cc</sub> =3.3V . Air condition
	Frequency Stability vs. Supply Voltage	-0.5		+0.5	$\times 10^{-9}$	TA =25°C, V <sub>cc</sub> varied from 3.135V to 3.465V and Load =15pF. Measurement referenced to frequency observed with TA = 25°C, V <sub>cc</sub> =3.3V.
	Frequency Tolerance vs Load	-0.5		+0.5	$\times 10^{-9}$	10% Load Change Measurement referenced to frequency observed with TA = 25°C, V <sub>cc</sub> =3.3V.
	Short-Term Stability: Allan Variance			1	$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 1s.
	Aging Tolerance per day	-1		+1	$\times 10^{-9}$	V <sub>cc</sub> , TA constant Measurement referenced to frequency observed with TA=25°C, V <sub>cc</sub> =3.3V. and after 30 days of operation
	Aging Tolerance 1 Year	-0.05		+0.05	$\times 10^{-6}$	
	Aging Tolerance 10 Years	-0.5		+0.5	$\times 10^{-6}$	



Power Supply	Supply Voltage	3.135	3.3	3.465	V		
	Steady Consumption			450	mA	@25°C	
	Warm up current			1000	mA	When all temp range	
	Warm Up	-0.1		+0.1	$\times 10^{-6}$	After warm up 3 minutes. Measurement referenced to frequency observed with TA = 25°C, V <sub>cc</sub> =3.3V. and after 24 hours of operation.	
Phase Noise	Phase Noise			-80	dBc/Hz	1Hz	
				-120		10Hz	
				-140		100Hz	
				-145		1KHz	
				-150		10KHz	
				-150		100KHz	
				-150		1MHz	
		Environmental 1 Conditions	Operable Temperature range	-10			+70
Storage Temperature	-55			+105	°C		
Temperature Rate of Change				1	°C/min		
Air-tightness					$1 \times 10^{-9}$	Pa.cm <sup>3</sup> /s	Crystal cavity
					$1 \times 10^{-5}$	Pa.cm <sup>3</sup> /s	Shell
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;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 ± 0.20mm without mark

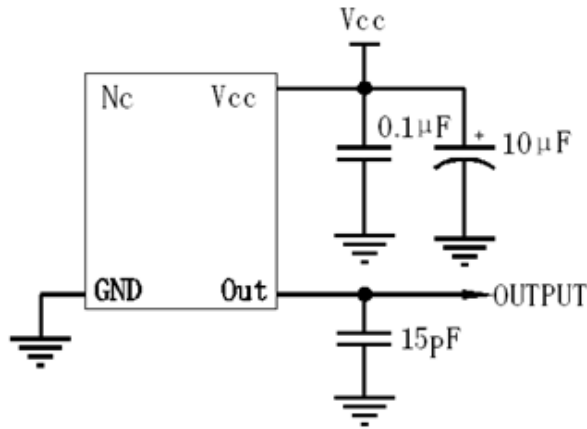
**Note2:** The first two xx representative: week  
After two xx representative: year

**Note3:** Referential weight 10g

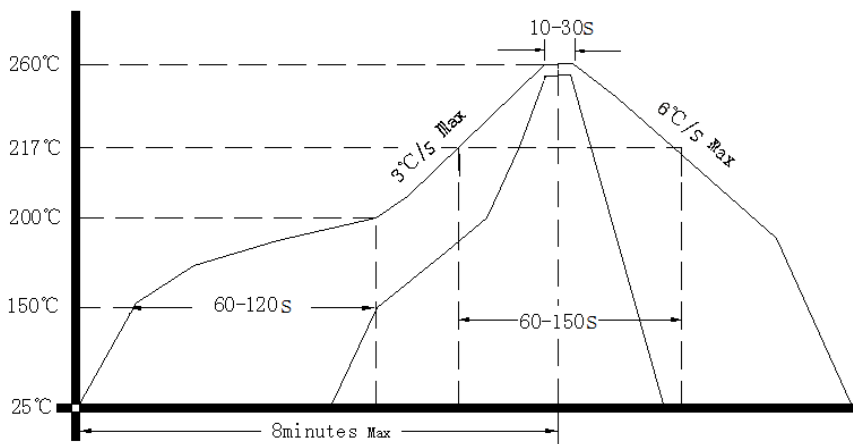
**Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

### 5. Package: Tape & Reel (mm)

