

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

# DATASHEET

DAPU P/N:           **O23S-1801-10.00MHz**          

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2023.11.16			

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## 1. Electrical Parameters

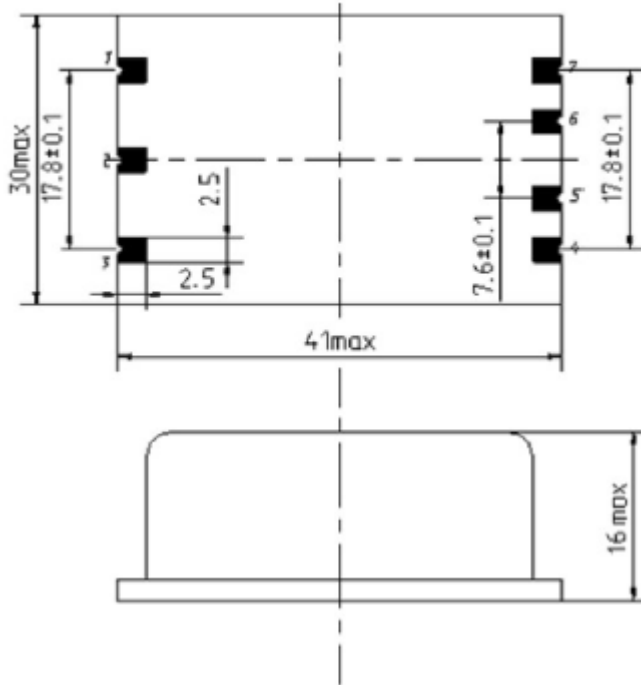
MODEL: O23S-1801-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	Sine wave				
	Level	7		11	dBm	
	Load	50			$\Omega$	
	Harmonics Suppression			-30	dBc	
	Spurious Suppression			-80	dBc	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-1		+1	$\times 10^{-9}$	$T_A$ varied from $0^\circ\text{C}$ to $75^\circ\text{C}$ , measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$ , $V_{\text{cc}}=12.0\text{V}$ , $O_{\text{load}}=50\Omega$ , temperature variable speed less than $2^\circ\text{C}$ per minute.
	Frequency Accuracy	-0.03		+0.03	$\times 10^{-6}$	$V_c = 2.5\text{V}$ . Within 90 days after shipment and 15 minutes warm up time (before reflow), Measurement referenced to nominal frequency
		-0.1		+0.1	$\times 10^{-6}$	$V_c = 2.5\text{V}$ . 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 $T_A=25^\circ\text{C}$ , $V_{\text{cc}}$ varied from 10.8V to 13.2V, $V_c=2.5\text{V}$ , $O_{\text{load}}=50\Omega$ .
	Frequency Tolerance vs. Load	-0.5		+0.5	$\times 10^{-9}$	5% Load Change Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=2.5\text{V}$ , $O_{\text{load}}=50\Omega$ .
	Short-Term Stability: Allan Variance			0.005	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to $25^\circ\text{C}$ ; 1s.
	Aging Tolerance Per Day	-0.5		+0.5	$\times 10^{-9}$	$V_{\text{cc}}, V_c, T_A$ constant Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=2.5\text{V}$ , $O_{\text{load}}=50\Omega$ and after 30 days of operation.
	Aging Tolerance Per 30 Days	-5		+5	$\times 10^{-9}$	
	Aging Tolerance First Year	-0.03		+0.03	$\times 10^{-6}$	
	Aging Tolerance 15 Years	-0.5		+0.5	$\times 10^{-6}$	
Retrace			$\pm 5$	$\times 10^{-9}$	24hours ON, 2hours OFF, 1hour ON.	



Power Supply	Supply Voltage	10.5	12.0	12.6	V	
	Steady Consumption			150	mA	@25°C
	Warm up current			400	mA	
	Warm-Up Time			5	min	@25°C within $\pm 0.03 \times 10^{-6}$ of final frequency with reference after 1hour on
	Reference Voltage	4.925	5	5.075	V	
	Reference Voltage Output Current			2	mA	
Voltage Control Characteristics	Tuning Voltage Range	0	2.5	5	V	
	Tuning Sensitivity	$\pm 0.15$		$\pm 0.25$	ppm/V	
	Linearity			10	%	
	Slope	Positive				
	Cut-off Frequency(3dB)	1			kHz	
	Input Impedance	10			K $\Omega$	
Phase Noise	Phase Noise @25°C			-119	dBc/Hz	1Hz
				-145		10Hz
				-157		100Hz
				-160		1KHz
				-166		10KHz
Environmental Conditions	Operating Temperature	0		+75	°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 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)



Pin	Designation
1	Ground
2	Not Connected
3	RF Output
4	Supply Voltage
5	Not Connected
6	Tuning Voltage Input
7	Reference Voltage Output

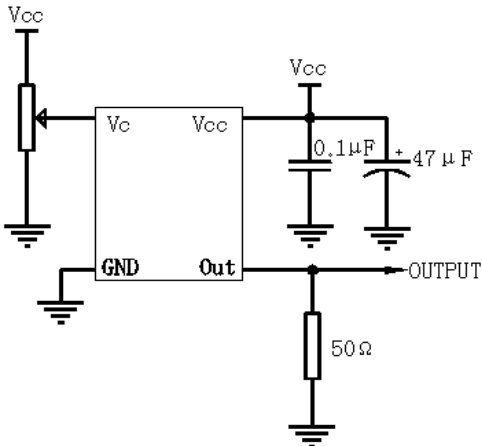
**Note1:** Tolerance ± 0.20mm without mark.

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

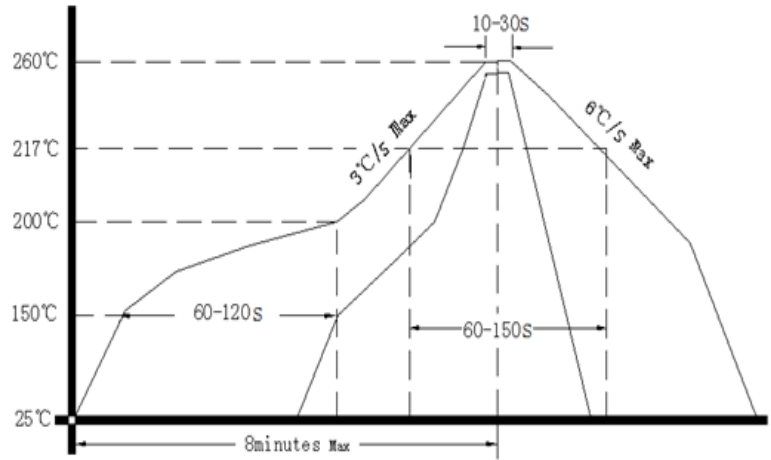
**Note3:** Referential Weight 21g.



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

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

