

Customer Code: _____

DATASHEET

DAPU P/N: 023S-A445-10.00MHz-A

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2023.09.07			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2023.02.22
1.1	The "Reference Voltage" changed	Amway	2023.03.07
1.2	The "Spurious Suppression" "Frequency Tolerance vs. supply voltage" "Short-Term Stability: Allan Variance" "Voltage Control Characteristics" "Mechanical Structure" changed	Amway	2023.09.07

DAPU

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1. Electrical Parameters

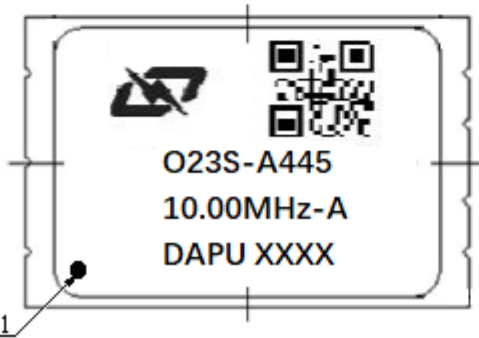
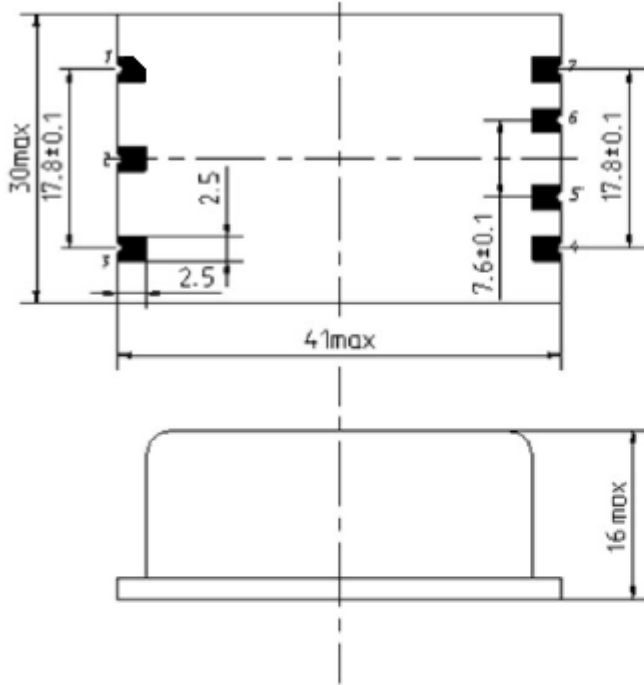
MODEL: O23S-A445-10.00MHZ-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	Sine wave				
	Level	7		12	dBm	
	Load	50			Ω	
	Harmonics Suppression			-45	dBc	
	Spurious Suppression			-80	dBc	9 ~ 11MHz
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-1		+1	$\times 10^{-9}$	T_A varied from 0°C to 75°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, $V_{cc}=12.0V$, $O_{load}=50\Omega$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-0.03		+0.03	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ C$, $V_{cc}=12V$, $V_c=2.5V$, and after 15 minutes of operation, at time of shipment.
	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 11.4V to 12.6V, $V_c=2.5V$, $O_{load}=50\Omega$.
	Frequency Tolerance vs. Load	-0.5		+0.5	$\times 10^{-9}$	5% Load Change Measurement referenced to frequency observed with $T_A=25^\circ C$, $V_{cc}=12.0V$, $V_c=2.5V$, $O_{load}=50\Omega$.
	Short-Term Stability: Allan Variance		0.0003		$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°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 $T_A=25^\circ C$, $V_{cc}=12.0V$, $V_c=2.5V$, $O_{load}=50\Omega$ 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			± 5	$\times 10^{-9}$	



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			10	min	@25°C within $\pm 0.1 \times 10^{-6}$ of final frequency with reference after 1hour on	
	Oscillator ON/OFF Input Threshold: $\geq 2.4V$ there must be a frequency output. (up to 12.6V input voltage acceptable), When the voltage $\leq 0.4V$, the RF output pin cannot have signal output.						
	Reference Voltage	4.925	5	5.075	V		
	Reference Voltage Output Impedance			100	Ω		
Voltage Control Characteristics	Tuning Voltage Range	0	2.5	5	V		
	Tuning Sensitivity	± 0.15		± 0.25	ppm/V		
	Linearity			10	%		
	Slope	Positive					
	Tuning Bandwidth	1			kHz		
	Input Impedance	10			K Ω		
Phase Noise	Phase Noise @25°C			-118	dBc/Hz	1Hz	
				-145		10Hz	
				-159		100Hz	
				-165		1KHz	
				-168		10KHz	
Environmental Conditions	Operating Temperature	0		+75	°C		
	Operable Temperature	0		+80	°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	Oscillator Enable
6	Tuning Voltage Input
7	Reference Voltage Output

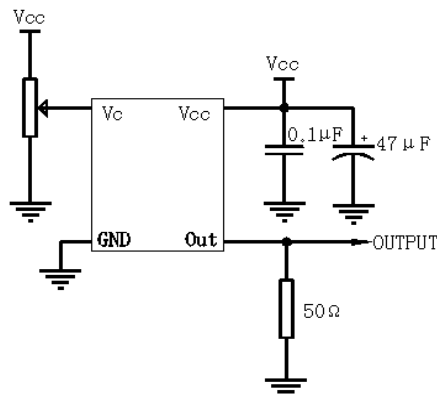
Note1: Tolerance ± 0.20mm without mark.

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

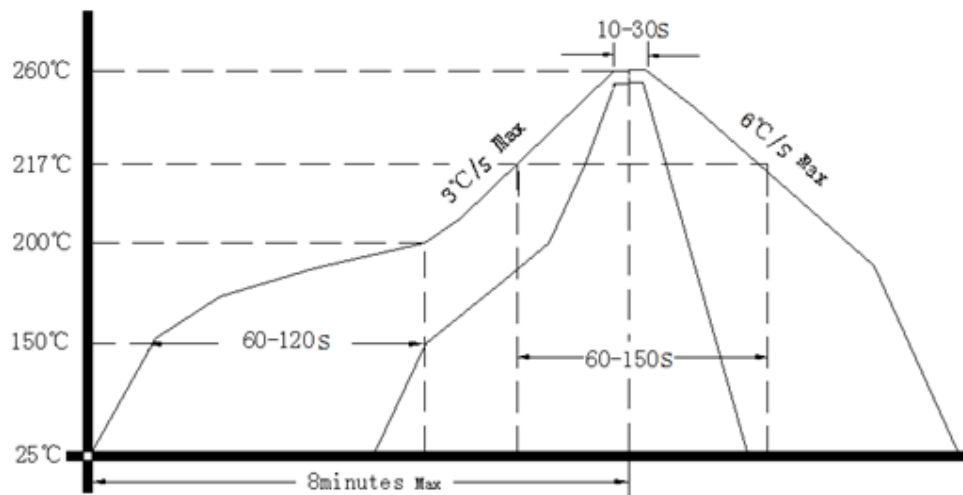
Note3: Referential Weight 21g.



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

5. Package: Tape & Reel (mm)

