

Customer Code: _____

DATASHEET

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

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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	<i>Amway</i>	2023.02.22
1.1	The "Reference Voltage" changed	<i>Amway</i>	2023.03.07
1.2	The "Spurious Suppression" "Frequency Tolerance vs. supply voltage" "Short-Term Stability: Allan Variance" "Voltage Control Characteristics" "Mechanical Structure" changed	<i>Amway</i>	2023.09.07



1. Electrical Parameters

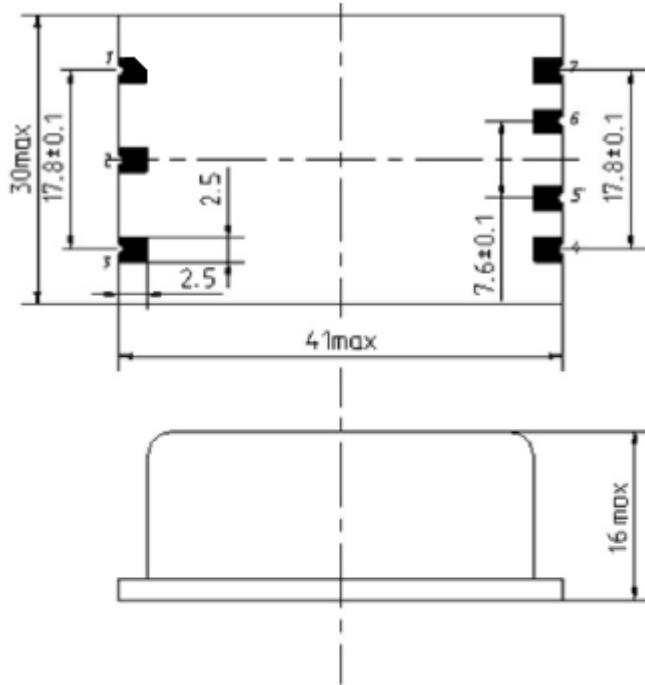
MODEL: O23S-A445-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	Sine wave				
	Level	7		12	dBm	
	Load	50			Ω	
	Harmonics Suppression			-45	dBc	
	Spurious Suppression			-80	dBc	9 ~ 11MHz
Frequency Stabilities	Frequency 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		0.0005		$\times 10^{-9}$	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 1 hour 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			-112	dBc/Hz	1Hz
				-143		10Hz
				-158		100Hz
				-163		1KHz
				-165		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

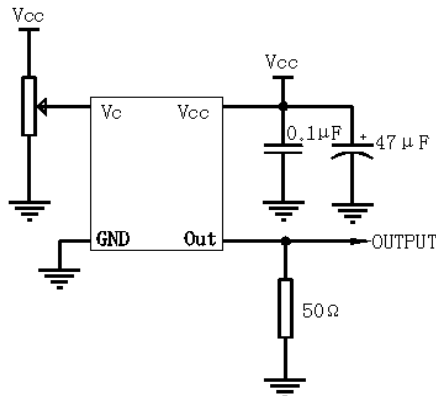
Note1: Tolerance $\pm 0.20\text{mm}$ without mark.

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

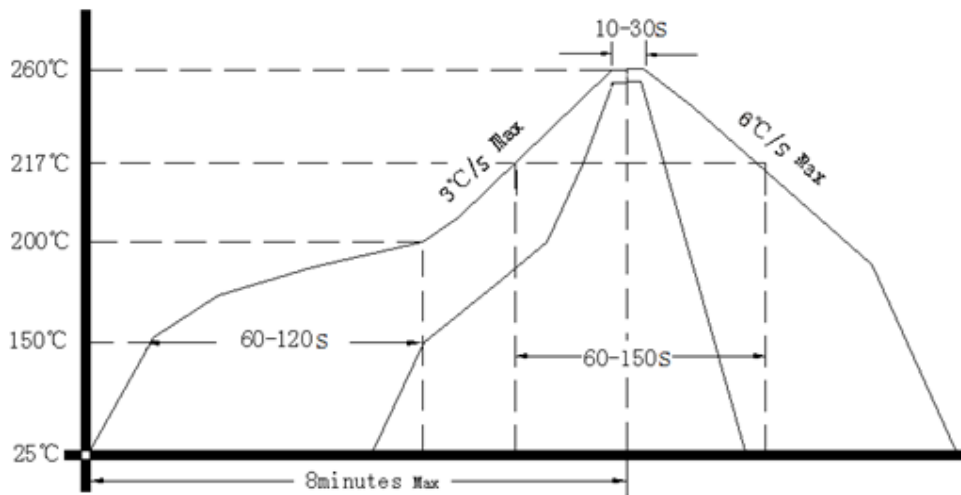
Note3: Referential Weight 21g.



3. Test Circuit

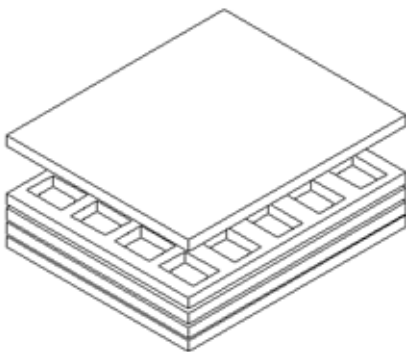


4. Reflow Soldering Curve (RoHS)

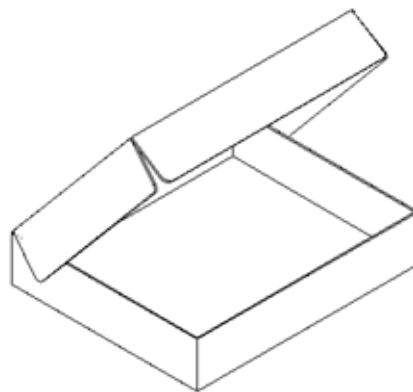


Note: Passing through reflow upside down is not supported

5. Package: Tape & Reel (mm)



Buffer material



Cardboard
Max 20pcs. circulator

