

Customer Code : _____

DATASHEET

DAPU P/N: 021L-F312-16.384MHz

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.11.05			

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1. Electrical Parameters

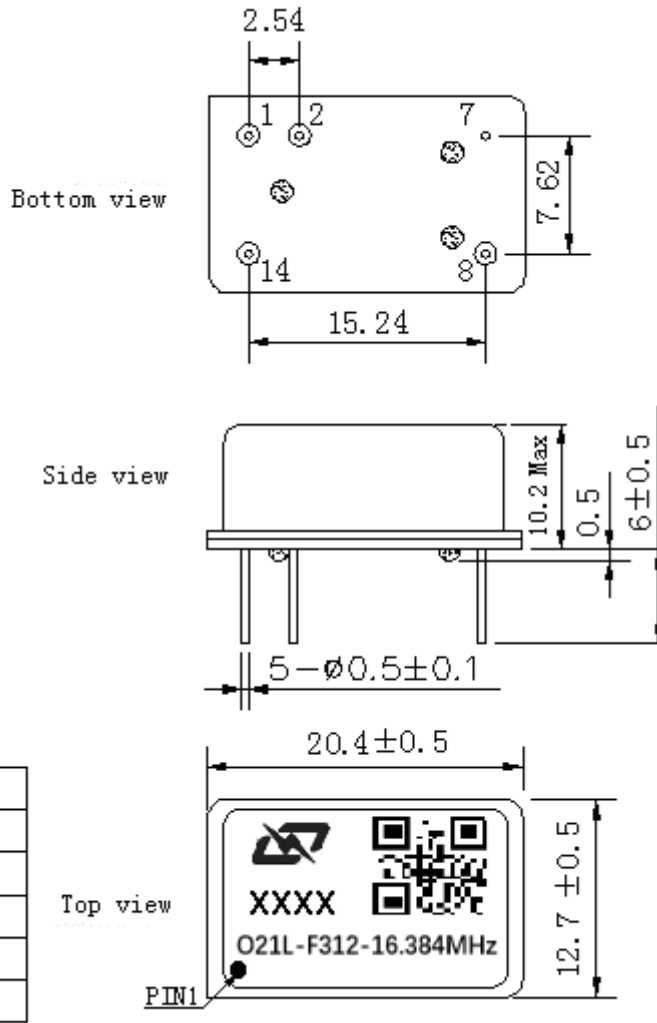
MODEL: O21L-F312-16.384MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	16.384			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45		55	%	@50%
	Rise / Fall Time (10%~90%)			10	ns	
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.01		+0.01	$\times 10^{-6}$	T_A varied from 0°C to 50°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, O_{load}=15pF$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-0.2		+0.2	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V, V_c=1.4V$, at time of shipment.
	Frequency Tolerance vs. Supply Voltage	-3		+3	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^\circ C, V_{cc}$ varied from 3.13V to 3.47V, and $O_{load}=15pF$.
	Short-Term Stability: Allan Variance		0.05		$\times 10^{-9}$	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}, T_A constant measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V$, and after 30 days of operation.
	Aging Tolerance First Year	-0.05		+0.05	$\times 10^{-6}$	
Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Reference Voltage	2.7	2.8	2.9	V	
	Steady Consumption			36	mA	@25°C
	Warm up Current			120	mA	
	Warm-Up Time			5	min	@25°C within $\pm 0.05 \times 10^{-6}$ of final Frequency with reference after 1 hour on.



Voltage Control Characteristics	Frequency Tuning Range		-0.4	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.4V$	
		-0.2	+0.2	$\times 10^{-6}$	$V_c=1.4V$. measurement referenced to Exactly16.384MHz	
		+0.4		$\times 10^{-6}$	$V_c=2.8V$. measurement referenced to $V_c=1.4V$	
	Linearity		10	%		
	Slope	Positive				
	Input Impedance	100			K Ω	
Phase Noise	Phase Noise		-115	-110	dBc/Hz	10Hz
			-137	-132		100Hz
			-148	-145		1KHz
			-152	-147		10KHz
Environmental Conditions	Operating Temperature	0	50	$^{\circ}C$		
	Storage Temperature	-55	+125	$^{\circ}C$		
	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.					
Full Package Storage	Relative humidity (%)	20% ~70%				
	Temperature ($^{\circ}C$)	-10~35 $^{\circ}C$				



2. Mechanical Structure (mm)



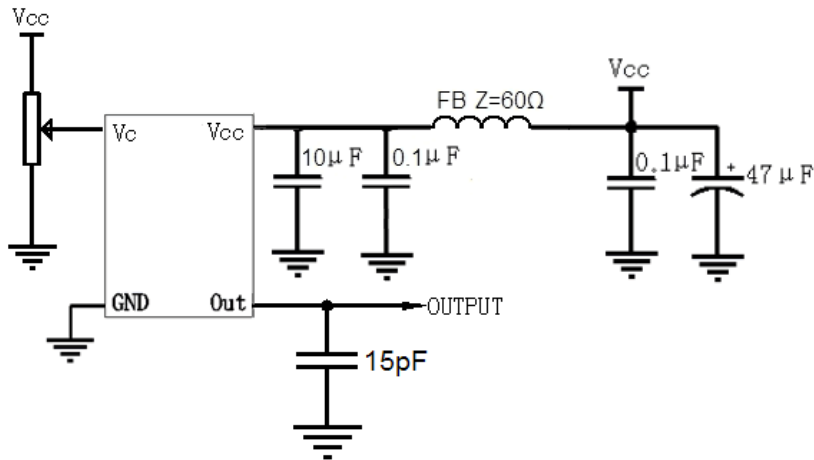
PIN FUNCTION

PIN	NOTATION	FUNCTION
1	VC	Control Voltage
2	VREF	VREF
7	GND	GND
8	OUTPUT	RF Output
14	VCC	Supply Voltage

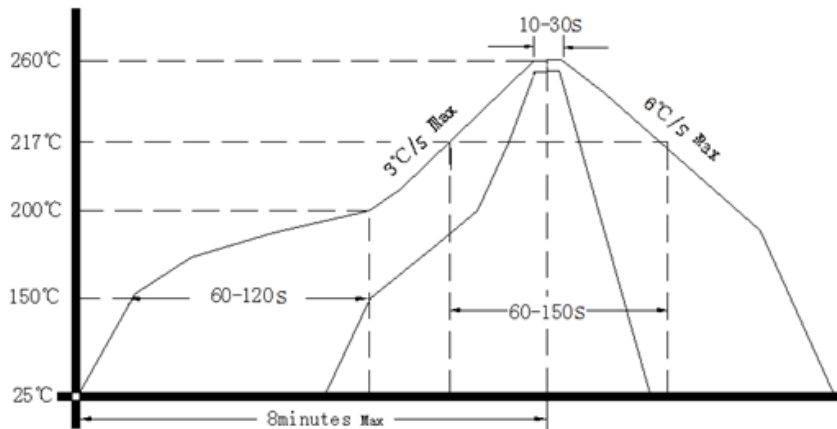
- Note1:** Tolerance ± 0.2mm without mark
- Note2:** Referential weight 4.2g
- Note3:** The first two xx representative: year
After two xx representative: week



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

