

Travelling Merchant: \_\_\_\_\_

# DATASHEET

Standard:     **O11F-D319-20.00MHz-A**    

P/N: \_\_\_\_\_

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2023.10.10			

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## 1. Electrical Parameters

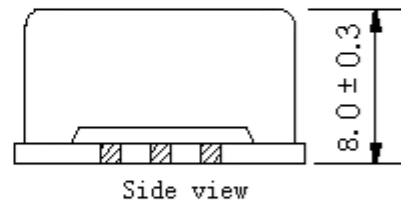
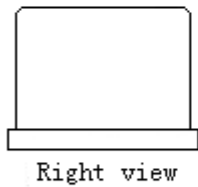
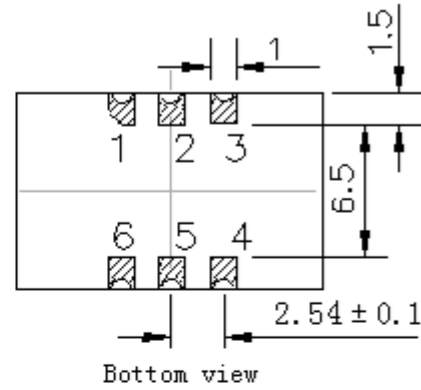
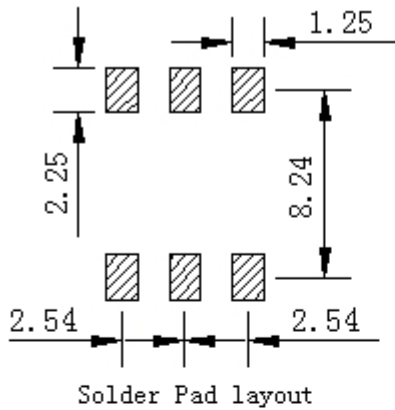
MODEL: O11F-D319-20.00MHz-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45		55	%	@50%
	Rise / Fall Time			6	ns	10%~90%
	Startup time till valid waveform			50	ms	Time until RF output waveform is within output level, duty cycle and rise/fall time spec
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-3		+3	$\times 10^{-9}$	$T_A$ varied from $-40^\circ\text{C}$ to $95^\circ\text{C}$ , measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, O_{load}=15\text{ pF}$ , temperature variable speed less than $2^\circ\text{C}$ per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-5		+5	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.135V to 3.465V, and $O_{Load}=15\text{ pF}$ .
	Frequency Tolerance vs. Load	-5		+5	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$ .
	Frequency vs. Temperature Slope	-0.5		+0.5	$\times 10^{-9}/^\circ\text{C}$	$T_{amb}$ slope $\pm 1^\circ\text{C}/\text{min}$ with any temperature window over operating temperature range. Includes also hysteresis effects. Slope measurement for device qualification as described in the related note.
	Aging Tolerance Per Day	-2		+2	$\times 10^{-9}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$ , and after 30 days of operation.
	Aging Tolerance 1 Year	-0.5		+0.5	$\times 10^{-6}$	



	Warm up Time			5	min	Time until RF output is within $\pm 0.025$ ppm referenced to last frequency reading 1 h after startup, $T_A=25^\circ\text{C}$ .	
	Steady Consumption			400	mA	@25°C	
	Warm up current			800	mA		
	Supply Voltage	3.135	3.3	3.465	V		
Phase Noise	Phase Noise @25°C		-75	-65	dBc/Hz	1Hz	
			-113	-108		10Hz	
			-146	-138		100Hz	
			-155	-150		1KHz	
			-163	-158		10KHz	
			-163	-158		100KHz	
			-163	-158		1MHz	
Environmental Conditions	Operating Temperature	-40		+95	°C		
	Operable Temperature	-45		+105	°C		
	Storage Temperature	-55		+105	°C		
	Relative Humidity Range	5		95	%		
	Absolute Humidity Range	1		29	g/m <sup>3</sup>		
	Air Pressure Range	70		106	kPa		
	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~2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z) .IEC 68-2-06 Test Fc.					
Shock	100g; 6ms; half sine wave (3 times for each 3 directions X ,Y, Z ),IEC 68-2-27 Test Ea/Severity 50A.						

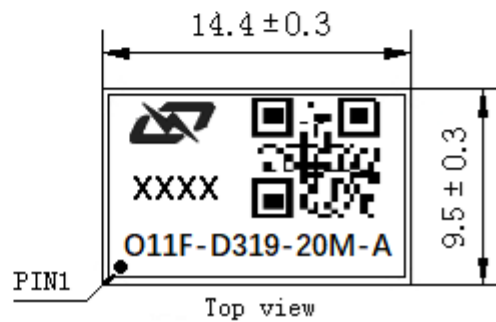


## 2. Mechanical Structure(mm)



### PIN FUNCTION

PIN	FUNCTION
1	NC
2,5	NC
3	GND
4	OUTPUT
6	VCC



**Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark

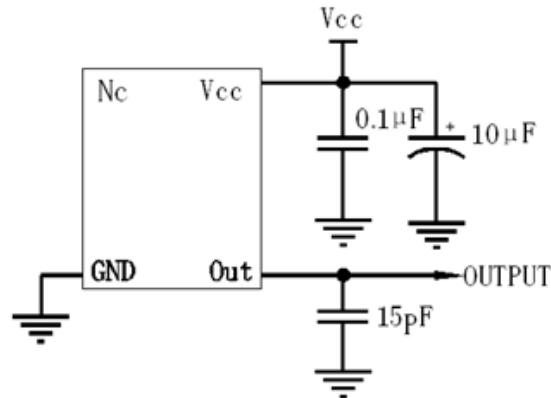
**Note2:** The first two xx representative: week  
After two xx representative: year

**Note3:** Referential Weight 2.2g

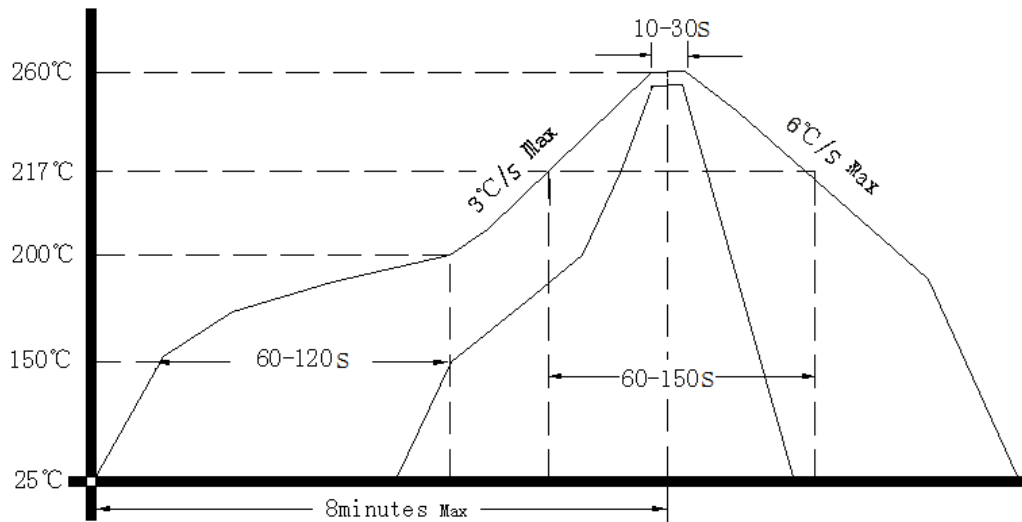
**Note4:** NC is not connect



### 3. Test circuit



### 4. Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

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

