

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

# DATASHEET

Standard:     **O11H-C319-20.00MHz**    

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

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2018.04.27			

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## 1. Electrical Parameters

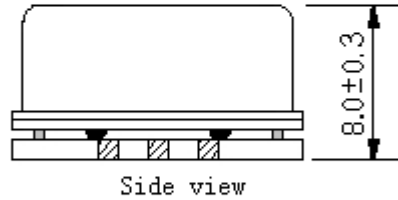
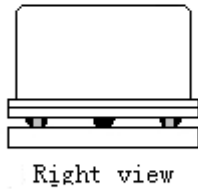
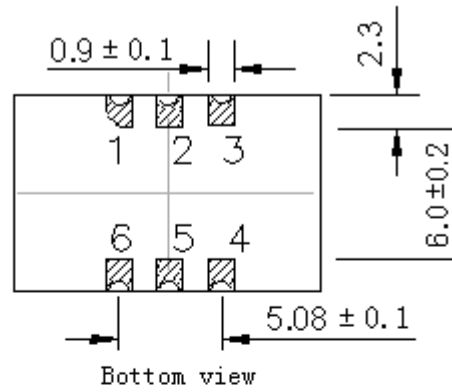
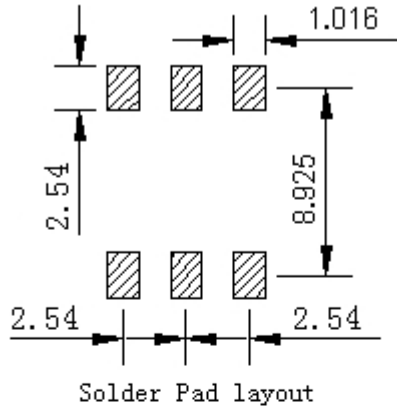
MODEL: O11H-C319-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			10	ns	
	Start-up Time			100	ms	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-5		+5	$\times 10^{-9}$	$T_A$ varied from -40°C to 85°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.
	Frequency Accuracy	-0.2		+0.2	$\times 10^{-6}$	Within 30 days after shipment and 15 minutes warm up time (before reflow), Measurement referenced to nominal frequency.
		-0.4		+0.4	$\times 10^{-6}$	Within 30 days after shipment and 15 minutes warm up time (after reflow), Measurement referenced to nominal frequency.
	Frequency Tolerance vs. Supply Voltage	-2		+2	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^\circ C, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load}=15pF$ .
	Frequency Tolerance vs. Load	-2		+2	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V$ , and $O_{Load}=15pF$ .
	Retrace	-0.05		+0.05	$\times 10^{-6}$	After 24 hour off at 25°C, 60min power on
	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	-1.0		+1.0	$\times 10^{-9}$	$V_{cc}, T_A$ constant measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V$ , and after 30 days of operation.
Aging Tolerance 1 Year	-0.1		+0.1	$\times 10^{-6}$		



Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			300	mA	@25°C
	Warm up Current			700	mA	
	Warm up Time			3	min	@25°C within $\pm 0.1 \times 10^{-6}$ of final frequency with reference after 1 hour on.
Phase Noise	Phase Noise			-75	dBc/Hz	1Hz
				-105		10Hz
				-130		100Hz
				-145		1KHz
				-150		10KHz
				-155		100KHz
				-155		1MHz
Jitter			0.8	ps	RMS Jitter (12KHz-20MHz)	
Environmental Conditions	Operable Temperature	-40		+125	°C	
	Storage Temperature	-55		+125	°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 3.				
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				

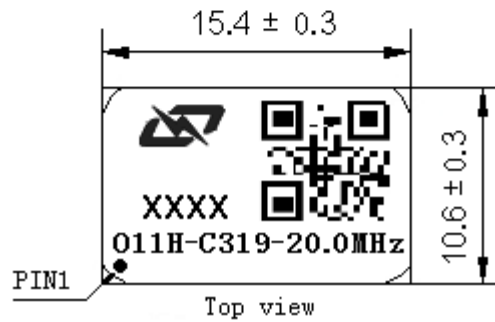


## 2. Mechanical Structure (mm)



### PIN FUNCTION

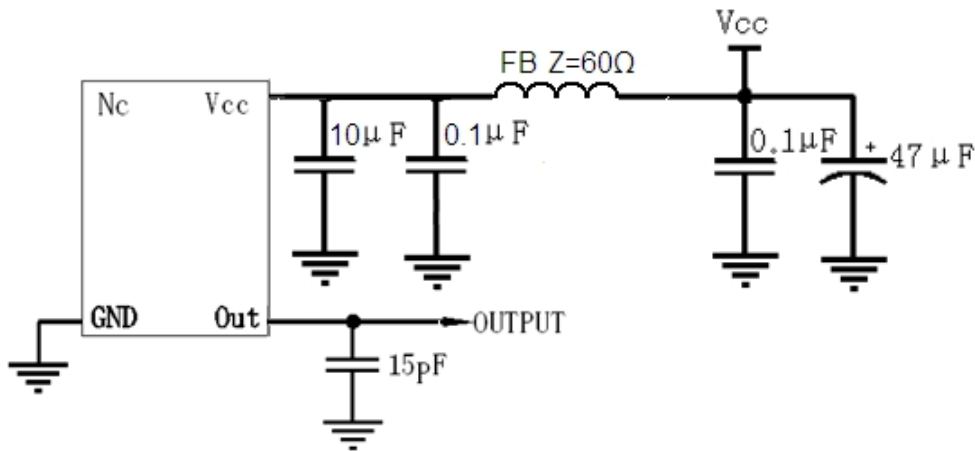
PIN	NOTATION	FUNCTION
1	NC	Not Connect
2,5	NC	Not Connect
3	GND	GND
4	OUTPUT	RF Output
6	VCC	Supply Voltage



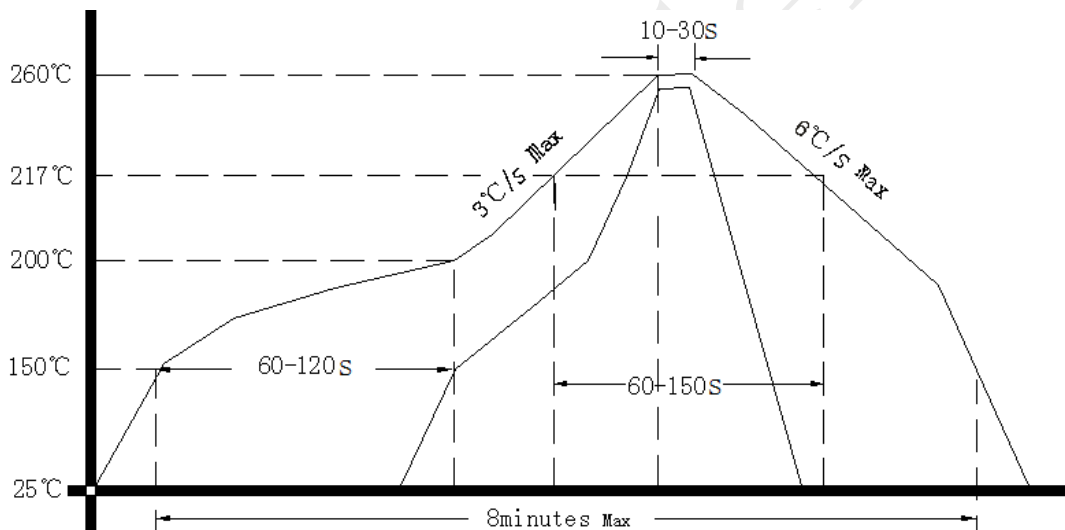
- Note1:** Tolerance  $\pm 0.2$ mm without mark
- Note2:** The first two xx representative: week  
After two xx representative: year
- Note3:** Referential weight 2.6g
- Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



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

