

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

# DATASHEET

Standard:           **O75A-I319-20.00MHz**          

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

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2021.05.19			

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## 1. Electrical Parameters

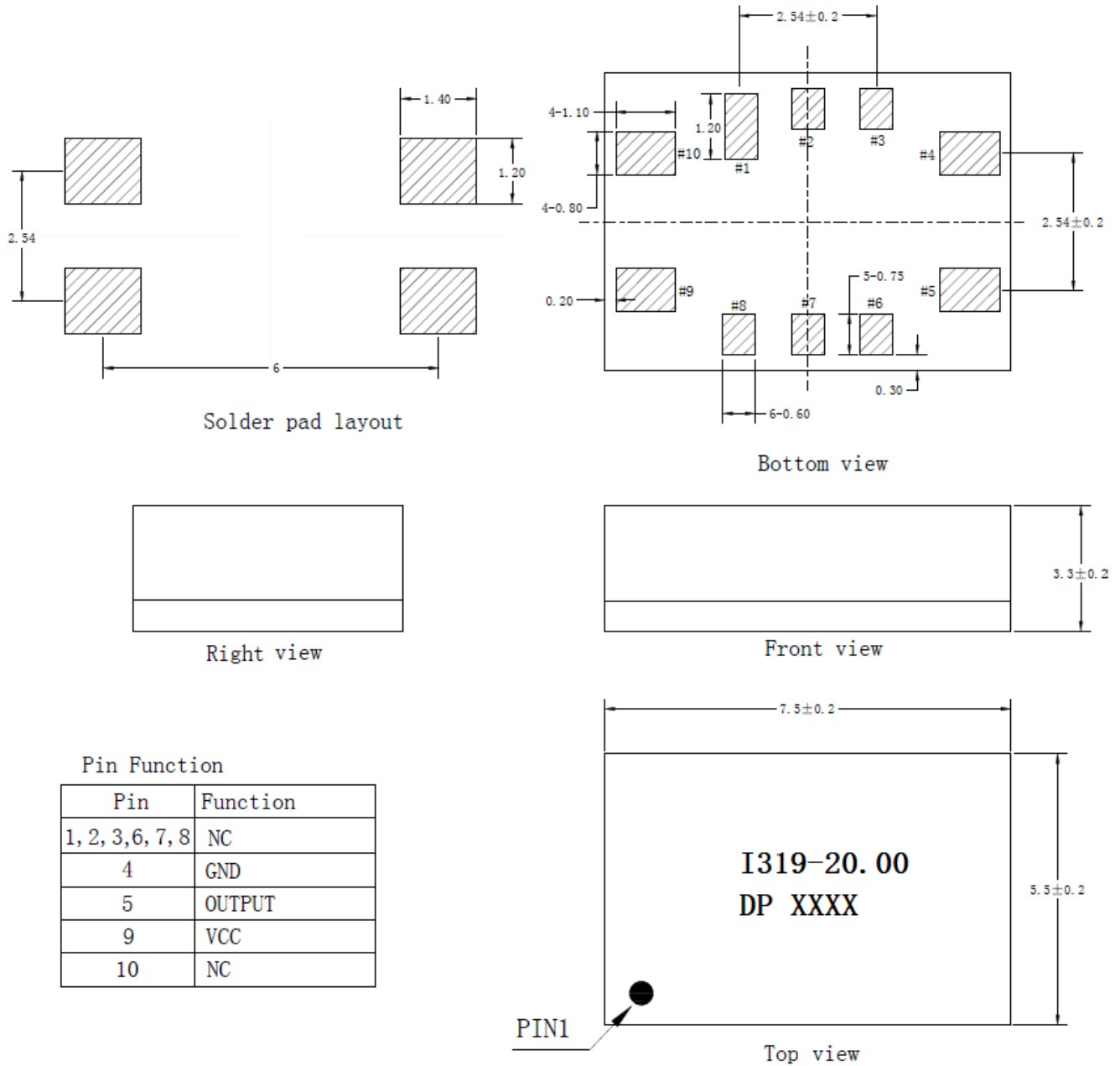
MODEL: O75A-I319-20.00MHZ						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	LVCMOS				
	Output Low Voltage			0.33	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45		55	%	@50%
	Rise / Fall Time			5	ns	10%~90%
	Startup time till valid waveform			15	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	-0.01		+0.01	$\times 10^{-6}$	$T_A$ 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 $T_A= -40\sim 95^\circ\text{C}, V_{cc}$ varied from 3.135V to 3.465V, and $O_{Load}=15\text{ pF}$ .
	Frequency Tolerance vs. Load	-0.01		+0.01	$\times 10^{-6}$	10% 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	-5		+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	-5		+5	$\times 10^{-9}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$ , and after 30days of operation.
	Overall Tolerance Over 15years	-4.6		+4.6	$\times 10^{-6}$	Over operating temperature range.



	Retrace accuracy	-0.025		+0.025	$\times 10^{-6}$	Cycle: 1st power on 1h, power off 15 min, 2nd power on. First reading 45 s after 2nd power on, referenced to last frequency reading immediately before power off, $T_A$ varied from $-40^{\circ}\text{C}$ to $95^{\circ}\text{C}$ .
	Warm up Time			45	s	Time until RF output is within $\pm 0.025$ ppm referenced to last frequency reading 1 h after startup, $T_A$ varied from $-40^{\circ}\text{C}$ to $95^{\circ}\text{C}$ .
	Rate of temperature variation	-1		+1	$^{\circ}\text{C}/\text{min}$	
	Steady Consumption			230	mA	@ $25^{\circ}\text{C}$
	Warm up current			460	mA	
	Supply Voltage	3.135	3.3	3.465	V	
Phase Noise	Phase Noise $-40\sim 95^{\circ}\text{C}$		-80	-70	dBc/Hz	1Hz
			-115	-110		10Hz
			-146	-138		100Hz
			-160	-154		1KHz
			-164	-159		10KHz
			-164	-160		100KHz
			-165	-161		1MHz
Maximum accumulated power of spurs and sub harmonic distortions				-84	dBc	$10\text{Hz} \leq f_{\text{offset}}$
Environmental Conditions	Operating Temperature	-40		+95	$^{\circ}\text{C}$	
	Operable Temperature	-45		+105	$^{\circ}\text{C}$	
	Storage Temperature	-55		+105	$^{\circ}\text{C}$	
	Relative Humidity Range	5		95	%	
	Absolute Humidity Range	1		29	$\text{g}/\text{m}^3$	
	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 3.				
	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)



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

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

**Note3:** Referential Weight 0.2g

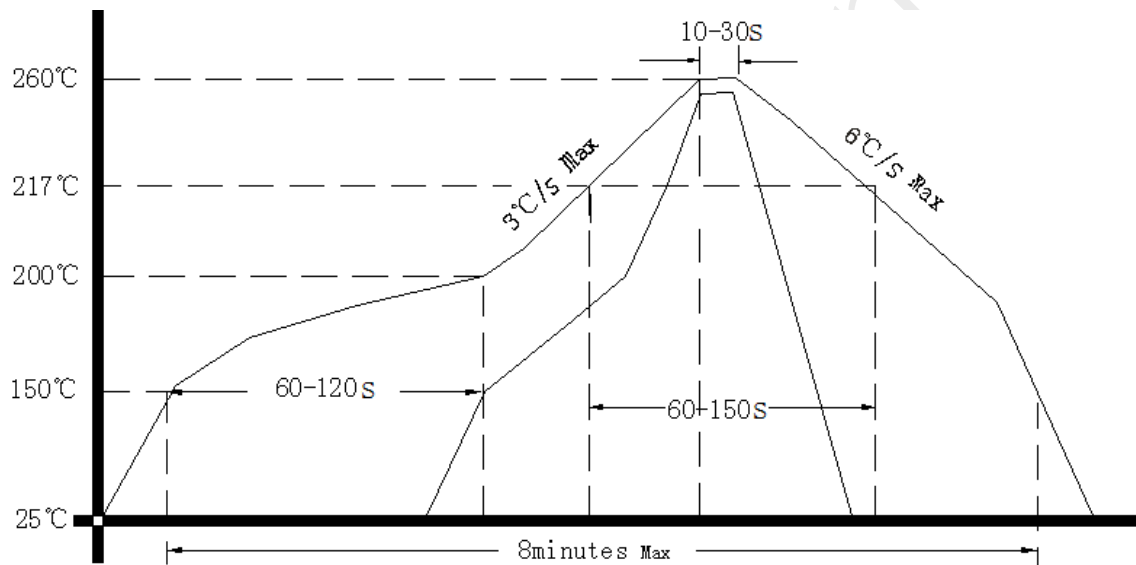
**Note4:** NC is not connect



### 3. Test circuit



### 4. Reflow Soldering Curve (RoHS)



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

