

Travelling Merchant: _____

DATASHEET

Standard: **O75A-S319-20.00MHz**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2023.06.13			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2020.07.23
1.1	The “Mechanical Structure” “Package: Tape & Reel” changed	<i>Amway</i>	2020.08.13
1.2	The “Phase Noise” “Mechanical Structure” “Package: Tape & Reel” changed	<i>Amway</i>	2023.06.13



1. Electrical Parameters

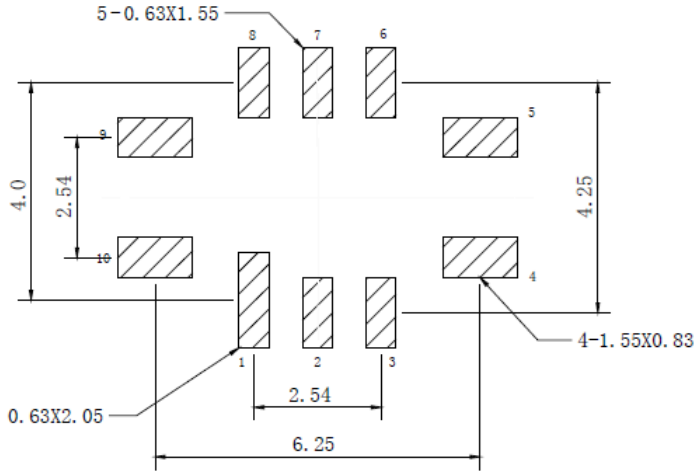
MODEL: O75A-S319-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	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	-0.02		+0.02	$\times 10^{-6}$	T_A varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, O_{load}=15\text{ pF}$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-1.5		+1.5	$\times 10^{-6}$	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 $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$.
	Aging Tolerance Per Day	-3		+3	$\times 10^{-9}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$, and after 30 days of operation.
	Aging Tolerance 1 Year	-0.3		+0.3	$\times 10^{-6}$	
Power	Steady Consumption			230	mA	@25°C
	Warm up current			600	mA	
	Supply Voltage	3.135	3.3	3.465	V	



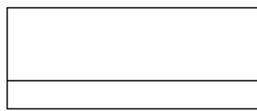
Phase Noise	Phase Noise @25°C			-60	dBc/Hz	1Hz
				-100		10Hz
				-138		100Hz
				-151		1KHz
				-155		10KHz
				-155		100KHz
				-155		1MHz
Environmental Conditions	Operating Temperature	-40		+85	°C	
	Operable Temperature	-45		+105	°C	
	Storage Temperature	-55		+105	°C	
	Relative Humidity Range	5		95	%	
	Absolute Humidity Range	1		29	g/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.					



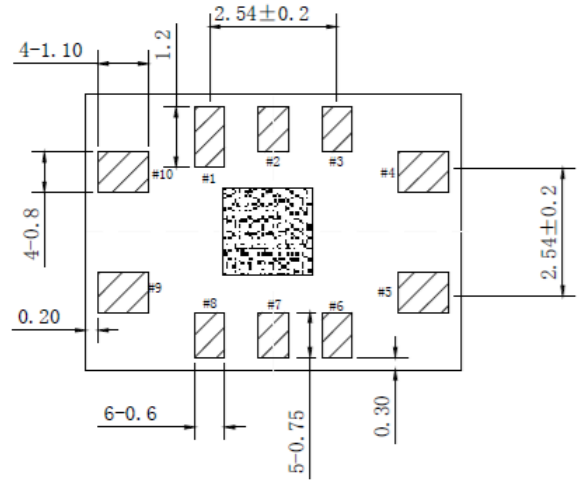
2. Mechanical Structure(mm)



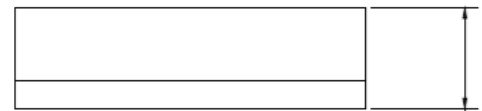
Solder pad layout



Right view



Bottom view

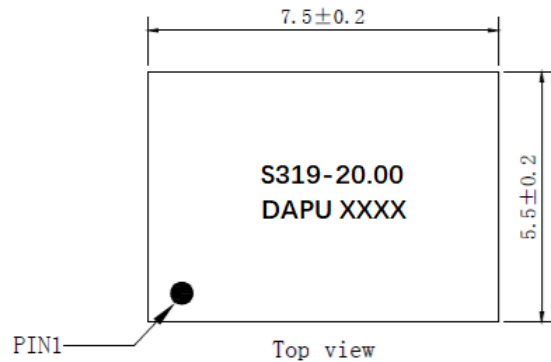


Front view

3.3±0.2

Pin Function

Pin	Function
1, 2, 3, 6, 7, 8	NC
4	GND
5	OUTPUT
9	VCC
10	NC



Top view

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

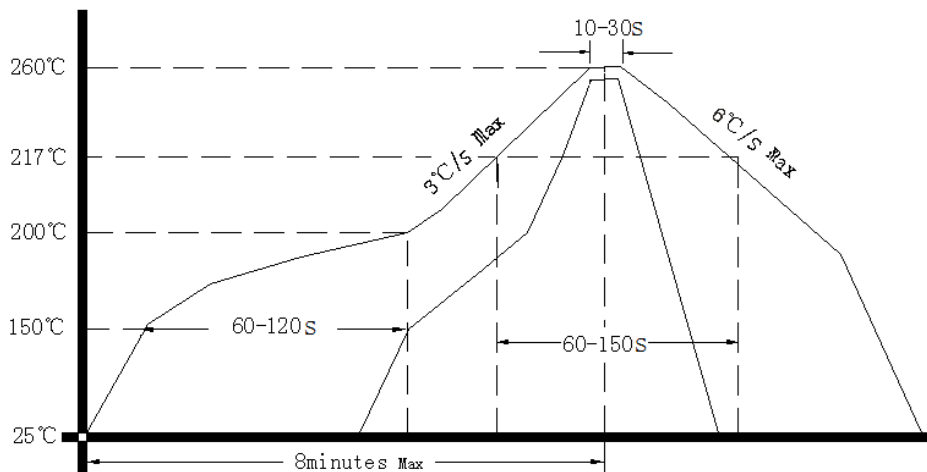
Note4: NC is not connect



3. Test circuit



4. Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

5. Package: Tape & Reel (mm)

