

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

# DATASHEET

Standard: T75B-M319-19.20MHz-A

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

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.09.30			

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### Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2022.09.26
1.1	Add “Overall stability” “holdover”, The “Aging 20 years” changed	<i>Amway</i>	2022.09.30



## 1. Electrical Parameters

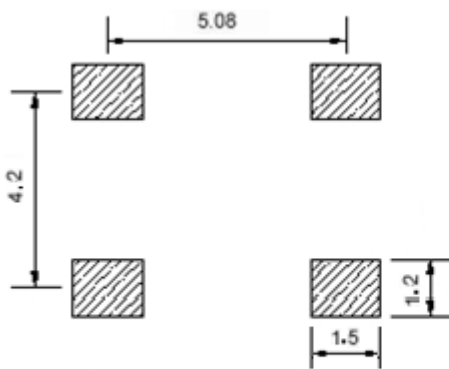
MODEL: T75B-M319-19.20MHZ-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	19.20			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	@25°C
	Start up Time			3	ms	Stabilization time to +/-0.5ppm of final frequency.
	Load	15			pF	
Frequency Stabilities	Overall Stability	-4.6		+4.6	$\times 10^{-6}$	Including frequency stability vs.temperature tolerance ex factory, aging over 20 years, supply&load variation.
	Frequency Tolerance vs. Operating Temperature Range	-0.05		+0.05	$\times 10^{-6}$	$T_A$ varied from -40°C to 105°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		+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.
		-0.5		+0.5	$\times 10^{-6}$	Measurement referenced to frequency before reflow, tested with $T_A=25^\circ\text{C}$ and $V_{cc}=3.3V, O_{load}=15\text{ pF}$ . At least 4 hours of static placement at room temperature is necessary after completion of 2 times reflow.
	Frequency Tolerance vs. Supply Voltage	-0.05		+0.05	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load}=15\text{ pF}$ .
	Frequency Tolerance vs. Load	-0.05		+0.05	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$ .
	Short Term		0.1	0.2	$\times 10^{-9}$	Allan Deviation (ADEV), tau=1 second, at constant temperature.
	Holdover	-0.37		+0.37	$\times 10^{-6}$	Including frequency stability over temp. and short term aging in 24h.



	Aging Tolerance Per Day	-0.01		+0.01	$\times 10^{-6}$	$T_A=25^\circ\text{C}$ , $V_{cc}=3.3\text{V}$ , and after 1h of operation.
	Aging Tolerance First Year	-1		+1	$\times 10^{-6}$	
	Aging Tolerance 20 Years	-3		+3	$\times 10^{-6}$	
Power Supply	Current Consumption			10	mA	@ $25^\circ\text{C}$ , $V_{cc}=3.3\text{V}$ , $O_{Load}=15\text{pF}$ .
	Supply Voltage	3.13	3.3	3.47	V	
Phase Noise	Phase Noise @ $25^\circ\text{C}$		-90	-85	dBc/Hz	10Hz
			-115	-110		100Hz
			-140	-135		1KHz
			-150	-145		10KHz
			-152	-148		100KHz
			-155	-150		1MHz
Environmental Conditions	Operable Temperature	-40		+105	$^\circ\text{C}$	
	Storage Temperature	-55		+105	$^\circ\text{C}$	
	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 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.					



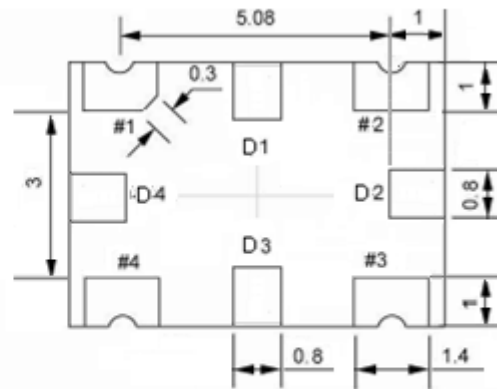
## 2. Mechanical Structure(mm)



Solder pad layout



Right view



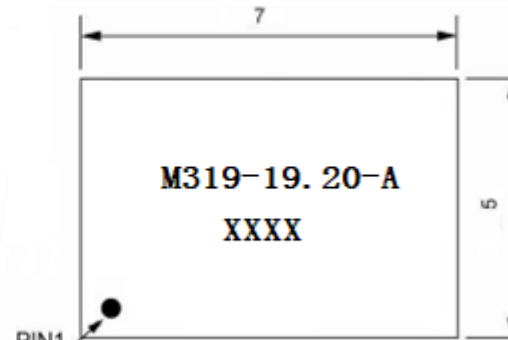
Bottom view



Side view

### PIN FUNCTION

PIN	FUNCTION
D1,D2,D3,D4	NC
1	NC
2	GND
3	OUTPUT
4	VCC

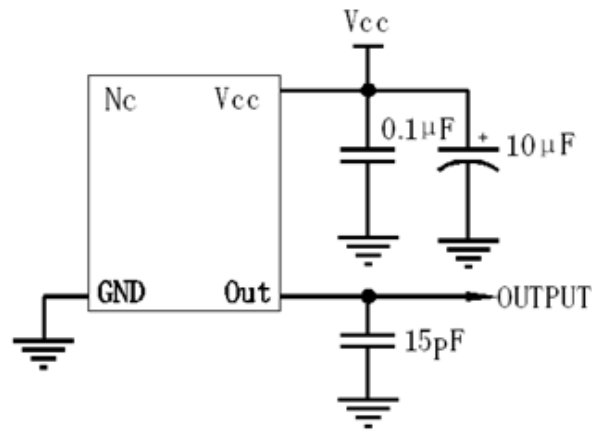


Top view

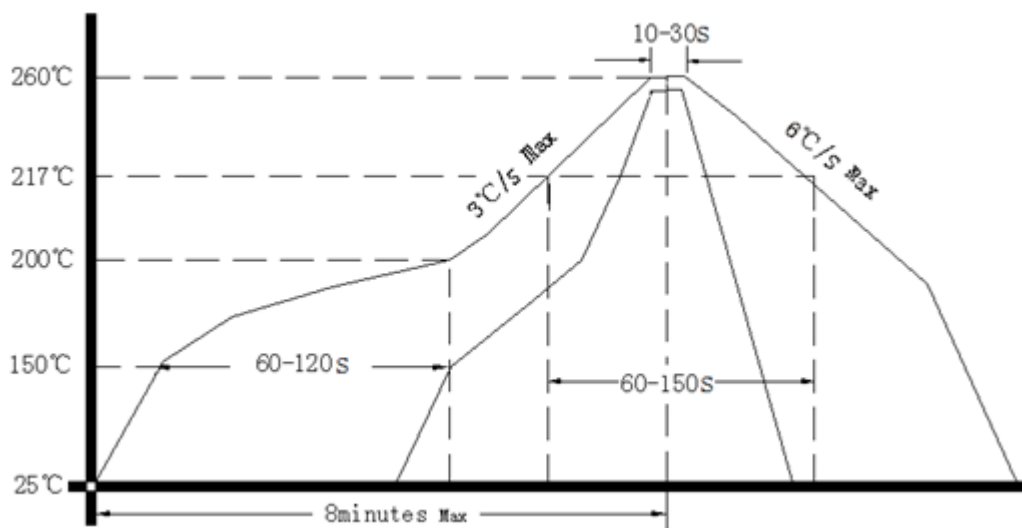
- Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark
- Note2:** Referential Weight 0.2g
- Note3:** The first two xx representative: week  
After two xx representative: year
- Note4:** NC is not connect



### 3. Test circuit



### 4. Reflow Soldering Curve (RoHS)



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

