

Customer Code : \_\_\_\_\_

# DATASHEET

DAPU P/N: **T75B-0802-20.00MHz**

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.01.31			

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## 1. Electrical Parameters

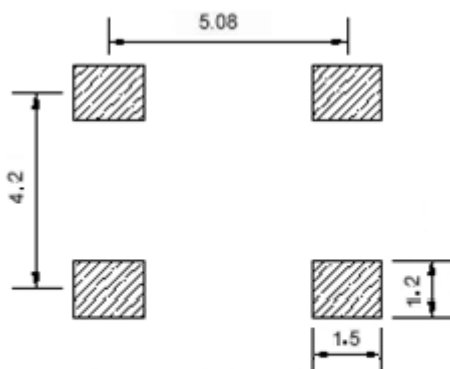
MODEL: T75B-0802-20.00MHz						
Item	Parameters	Electrical Spec			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45		55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	@25°C
	Load	15			pF	
	Settling time			50	ms	Time taken for frequency to reach specified calibration tolerance
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	$T_A$ 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	-0.5		+0.5	$\times 10^{-6}$	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	-0.1		+0.1	$\times 10^{-6}$	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	-0.1		+0.1	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$
	Reflow shift	-1		+1	$\times 10^{-6}$	Two consecutive reflows as per attached profile after 1 hour recovery 25°C
	Frequency perturbations			0.1	$\times 10^{-6}$	Minimum of 1 frequency reading every 3°C over the operating temperature range
	Static temperature hysteresis			0.4	$\times 10^{-6}$	Frequency change after reciprocal temperature ramped over the operating range. Frequency measured before and after at 25°C
	Frequency slope			0.1	$\times 10^{-6}/^\circ\text{C}$	Minimum of 1 frequency reading every 2°C, over the operating temperature range
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$ , after 1h of operation.
	Aging Tolerance 10 Year	-3		+3	$\times 10^{-6}$	



Power Supply	Current Consumption			3	mA	@25°C, V <sub>cc</sub> =3.3V, O <sub>load</sub> =15pF.
	Supply Voltage	3.15	3.3	3.45	V	
Phase Noise	Phase Noise @25°C		-93	-90	dBc/Hz	10Hz
			-120	-110		100Hz
			-140	-130		1KHz
			-150	-145		10KHz
			-153	-148		100KHz
			-153	-148		1MHz
Jitter				2	ps	RMS(12K-10MHz)
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-40		+85	°C	
	ESD Level	Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; ANSI/ESDA/JEDEC JS-001-2010.				
	Moisture Sensitivity Level	Level 2.				
	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				



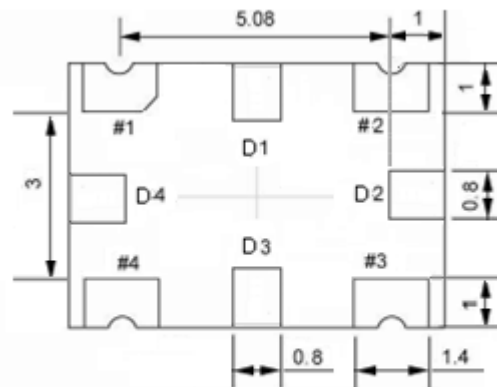
## 2. Mechanical Structure(mm)



Solder pad layout



Right view



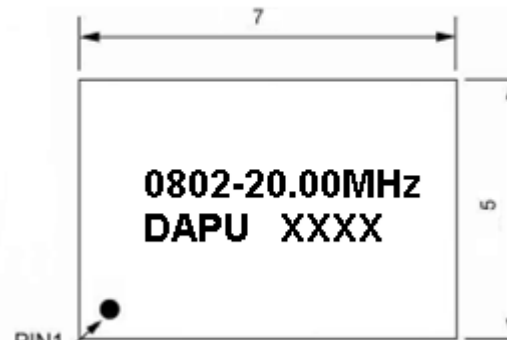
Bottom view



Side view

### PIN FUNCTION

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



Top view

**Note1:** Tolerance  $\pm 0.30\text{mm}$  without mark

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

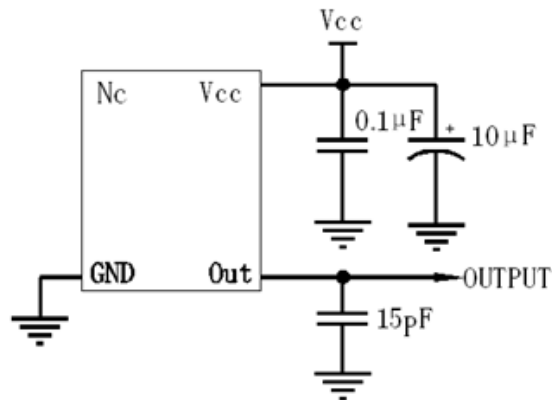
After two xx representative: year

**Note3:** Referential Weight 0.2g

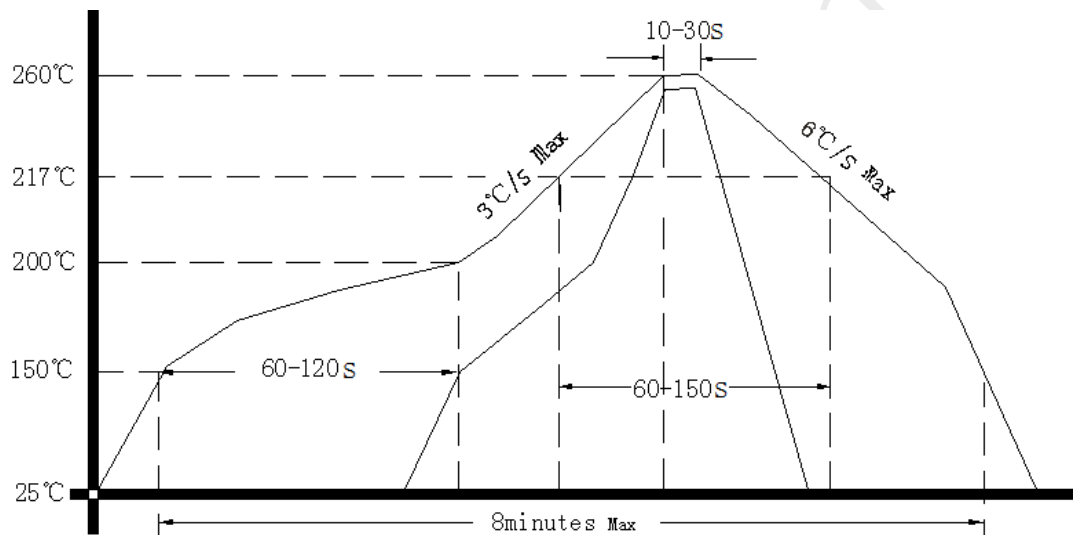
**Note4:** NC is not connect



### 3. Test circuit



### 4. Reflow Soldering Curve (RoHS)



Note: If soldering with a hot air gun, ensure the temperature < 320°C , soldering time < 15 seconds.

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

