

Travelling Merchant: _____

DATASHEET

Standard: **T75B-D312-10.00MHz-A**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.01.24			

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1. Electrical Parameters

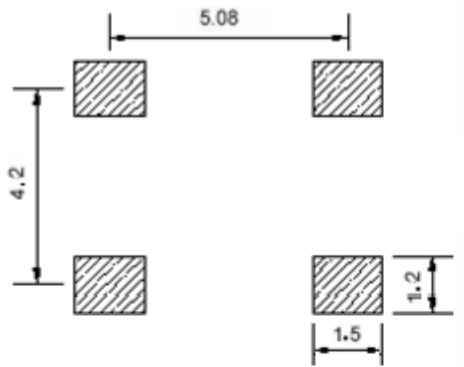
MODEL: T75B-D312-10.00MHZ-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			10	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.05		+0.05	$\times 10^{-6}$	T_A varied from -20°C to 70°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.65V, O_{load}=15\text{ pF}$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V$, within 30 days after ex-works.
	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, $V_c=1.65V$, 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 $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V, O_{Load}=15\text{ pF}$.
	Aging Tolerance Per Day	-0.01		+0.01	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V$, and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
Power Supply	Current Consumption			10	mA	@25°C, $V_{cc}=3.3V, V_c=1.65V, O_{Load}=15\text{ pF}$.
	Supply Voltage	3.13	3.3	3.47	V	



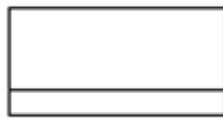
Voltage Control Characteristics	Frequency Tuning Range	-15		-5	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.65V$
		-1		+1	$\times 10^{-6}$	$V_c=1.65V$. measurement referenced to exactly 10.00MHz
		+5		+15	$\times 10^{-6}$	$V_c=3.3V$. measurement referenced to $V_c=1.65V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K Ω
Phase Noise	Phase Noise		-85	-80	dBc/Hz	10Hz
			-115	-110		100Hz
			-140	-135		1KHz
			-145	-140		10KHz
			-148	-143		100KHz
			-150	-145		1MHz
Environmental Conditions	Operable Temperature	-20		+70	$^{\circ}C$	
	Storage Temperature	-55		+105	$^{\circ}C$	
	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.				
Full Package Storage	Relative humidity (%)	20% ~ 70%				
	Temperature ($^{\circ}C$)	-10~35 $^{\circ}C$				



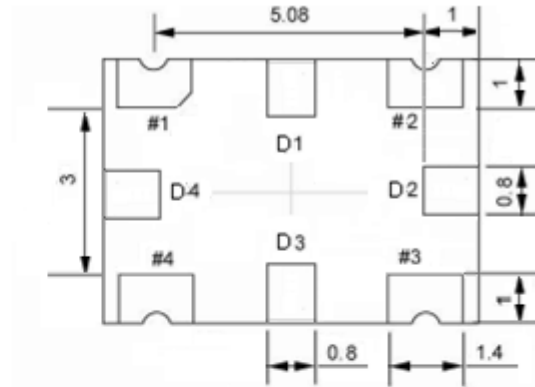
2. Mechanical Structure(mm)



Solder pad layout



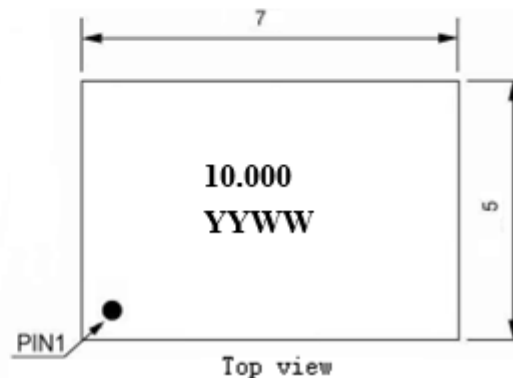
Right view



Bottom view



Side view



Top view

PIN FUNCTION

PIN	NOTATION	FUNCTION
D1, D2, D3, D4	NC	Not Connect
1	VC	Control Voltage
2	GND	GND
3	OUTPUT	RF Output
4	VCC	Supply Voltage

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

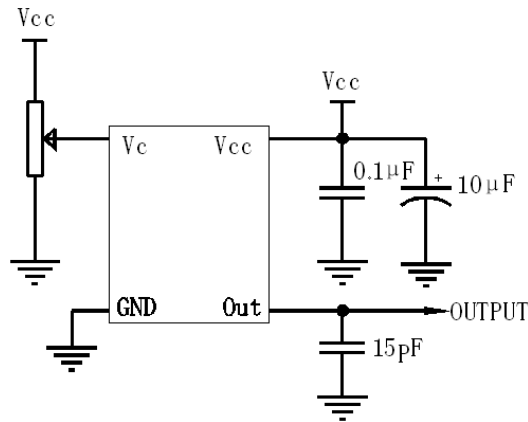
Note2: The first YY representative: year
After two WW representative: week

Note3: Referential weight 0.2g

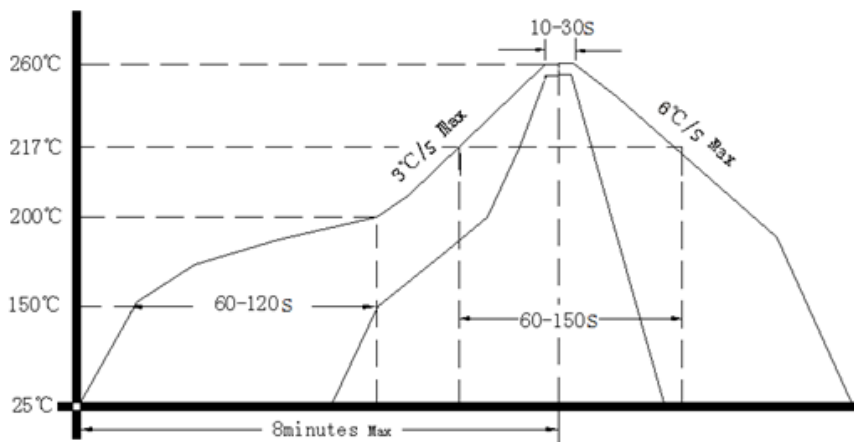
Note4: NC is not connect



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)

