

Travelling Merchant: _____

DATASHEET

Standard: **T75B-B317-10.00MHz**

P/N: _____

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

Guangdong Dapu Telecom Technology Co.,Ltd

Building 5, No.24, Industrial East Road, Songshanhu Park, Dongguan, Guangdong, P.R. China

TEL: 0086-0769-88010888 FAX: 0086-0769-81800098



Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2020.07.08
1.1	The“Mechanical Structure” “Package: Tape & Reel”changed	Amway	2020.10.22
1.2	The “Moisture Sensitivity Level” “Reflow Soldering Curve” changed, Add “Start up Time” “Aging Tolerance 20 Years” “Initial Frequency Tolerance” “Short Term”	Amway	2022.09.23
1.3	Add “Overall stability” “holdover”, The “Aging 20 years” changed	Amway	2022.09.30



1. Electrical Parameters

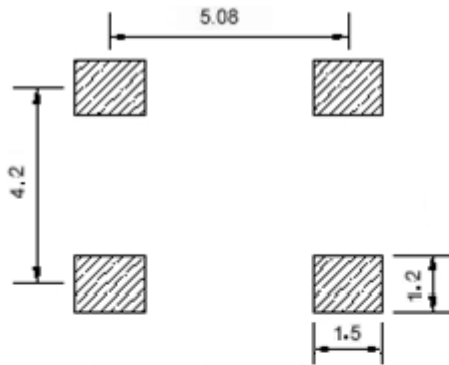
MODEL: T75B-B317-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			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	-0.28		+0.28	$\times 10^{-6}$	T_A varied from -40°C to 105°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, $V_{CC}=3.3V$, $V_C=1.65V$, $O_{load}=15\text{ pF}$.
	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.
		-0.5		+0.5	$\times 10^{-6}$	Measurement referenced to frequency before reflow, tested with $T_A=+25^\circ\text{C}$ and $V_{cc}=3.3V$, $V_c=1.65V$, $O_{load}=15\text{ pF}$. 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, $V_c=1.65V$ 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 $T_A=25^\circ\text{C}$, $V_{cc}=3.3V$, $V_c=1.65V$, $O_{Load}=15\text{ pF}$
	Holdover	-0.37		+0.37	$\times 10^{-6}$	Including frequency stability over temp. and short term aging in 24h.
	Short Term		0.1	0.2	$\times 10^{-9}$	Allan Deviation (ADEV), tau=1 second, at constant temperature.



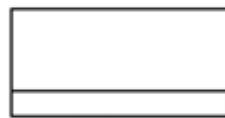
	Aging Tolerance Per Day	-0.01		+0.01	$\times 10^{-6}$	$T_A=25^\circ\text{C}$, $V_{cc}=3.3\text{V}$, $V_c=1.65\text{V}$ and after 1h of operation.
	Aging Tolerance First Year	-1		+1	$\times 10^{-6}$	
	Aging Tolerance 20 Years	-3		+3	$\times 10^{-6}$	
Power Supply	Current Consumption			10	mA	@ 25°C , $V_{cc}=3.3\text{V}$, $V_c=1.65\text{V}$, $O_{load}=15\text{pF}$.
	Supply Voltage	3.13	3.3	3.47	V	
Voltage Control Characteristics	Frequency Tuning Range			-8	$\times 10^{-6}$	$V_c=0\text{V}$. measurement referenced to $V_c=1.65\text{V}$
		-1		+1	$\times 10^{-6}$	$V_c=1.65\text{V}$. measurement referenced to exactly 10.00MHz
		+8			$\times 10^{-6}$	$V_c=3.3\text{V}$. measurement referenced to $V_c=1.65\text{V}$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			K Ω	
Phase Noise	Phase Noise @ 25°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.					
Full Package Storage	Relative humidity (%)	20%~70%				
	Temperature ($^\circ\text{C}$)	-10~35 $^\circ\text{C}$				



2. Mechanical Structure(mm)



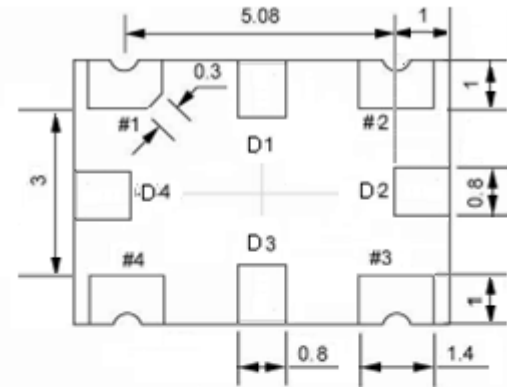
Solder pad layout



Right view

PIN FUNCTION

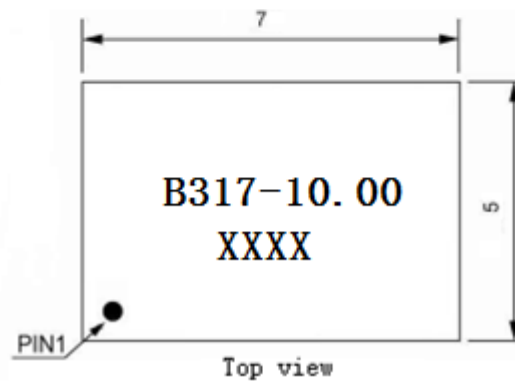
PIN	NOTATION	FUNCTION
D1, D2, D3, D4	NC	Not Connect
1	VC	Control Voltage
2	GND	GND
3	OUTPUT	RF Output
4	VCC	Supply Voltage



Bottom view



Side view



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

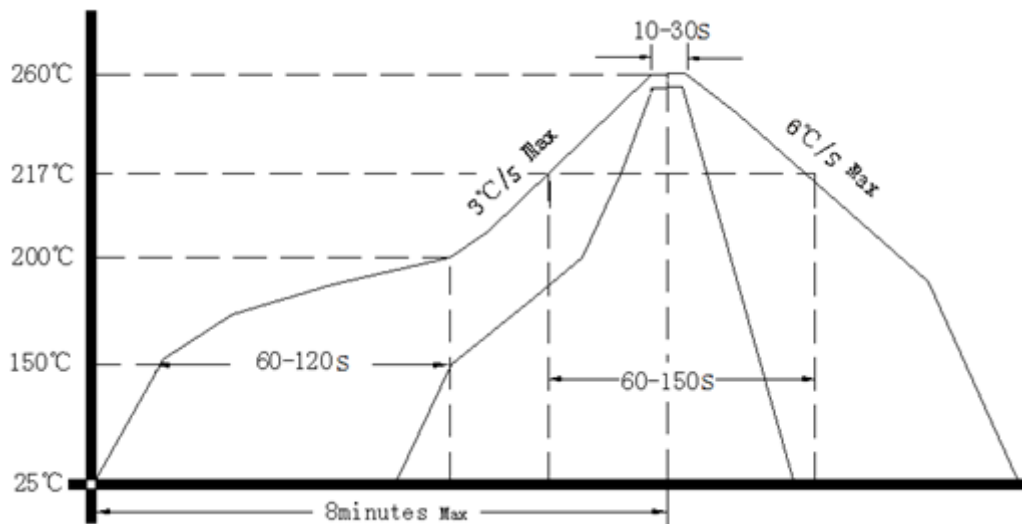
Note4: NC is not connect



3. Test circuit



4. Reflow Soldering Curve (RoHS)



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

5. Package: Tape & Reel (mm)

