

Travelling Merchant: _____

DATASHEET

Standard: T75B-B313-38.40MHz-I

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2025.03.11			

Guangdong Dapu Telecom Technology Co.,Ltd

Building 5, No.24, Industrial Road East, 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	<i>Amway</i>	2025.03.11

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1. Electrical Parameters

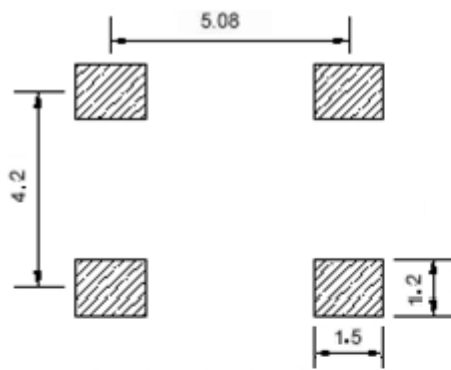
MODEL: T75B-B313-38.40MHz-I						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	38.40			MHz	
	Output Waveform	LVCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			6	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 -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.5V, O_{load}=15\text{ pF}$, temperature variable speed less than 2°C per minute.
	Frequency Calibration	-0.5		+0.5	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$, at time of shipment.
	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 $V_c=1.5V, O_{Load}=15\text{ pF}$.
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$, and $O_{Load}=15\text{ pF}$.
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
Power Supply	Operating Current			10	mA	@25°C.
	Supply Voltage	3.13	3.3	3.47	V	



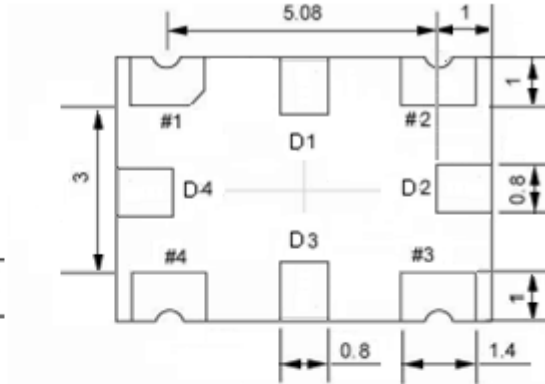
Voltage Control Characteristics	Frequency Tuning Range	-12		-5	$\times 10^{-6}$	$V_c=0.5$ V. measurement referenced to $V_c=1.5$ V.
		-0.5		+0.5	$\times 10^{-6}$	$V_c=1.5$ V. measurement referenced to Exactly 38.40MHz.
		+5		+12	$\times 10^{-6}$	$V_c=2.5$ V. measurement referenced to $V_c=1.5$ V.
	Linearity			10	%	
	Slope	Positive				
Input Impedance	100				K Ω	
Phase Noise	Phase Noise @25 $^{\circ}$ C		-83	-78	dBc/Hz	10Hz
			-105	-100		100Hz
			-135	-130		1KHz
			-150	-145		10KHz
			-155	-150		100KHz
Environmental Conditions	Operable Temperature	-40		+85	$^{\circ}$ C	
	Storage Temperature	-55		+125	$^{\circ}$ 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				



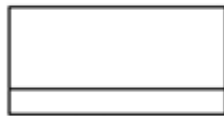
2. Mechanical Structure(mm)



Solder pad layout



Bottom view



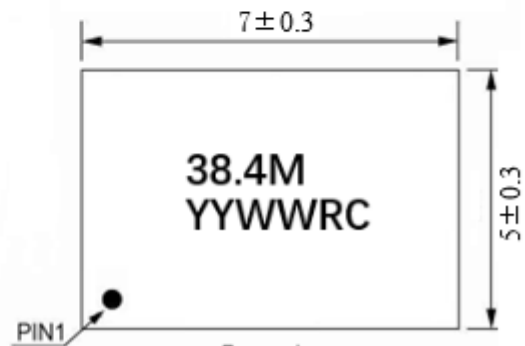
Right view



Side view

PIN FUNCTION

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



Top view

Note1: Tolerance $\pm 0.1\text{mm}$ without mark

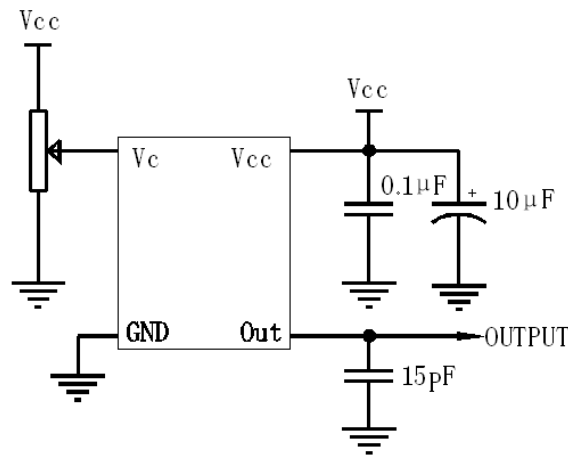
Note2: The first two YY representative: year

The last two WW representative: week

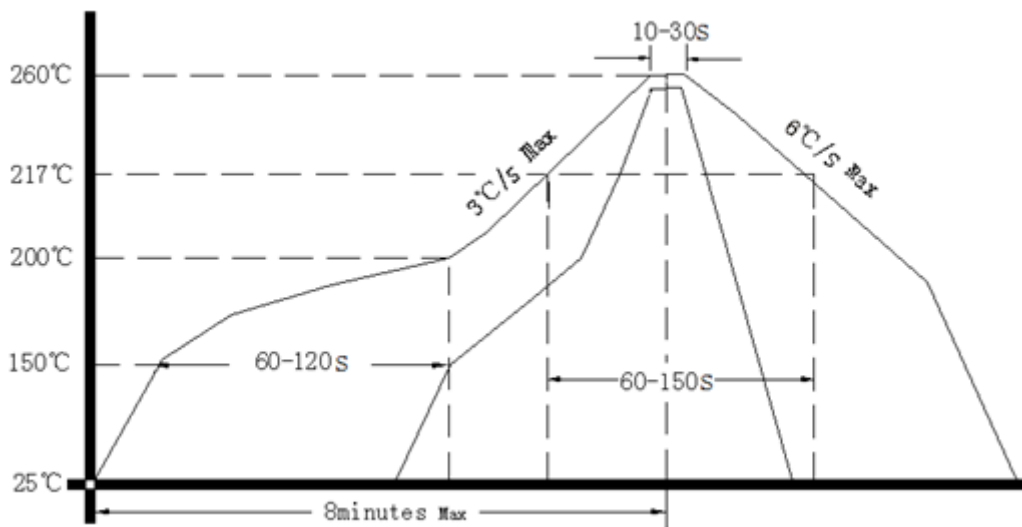
Note3: Referential weight 0.2g



3. Test Circuit



4. Output Waveform



Note: If soldering with a hot air gun, ensure the temperature <math>< 320^{\circ}\text{C}</math>, soldering time <math>< 15</math> seconds.

5. Package: Tape & Reel (mm)

