

Customer Code : _____

DATASHEET

DAPU P/N: **T75A-Y313-12.80MHz**

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.09.29			

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	<i>Amway</i>	2022.09.29



1. Electrical Parameters

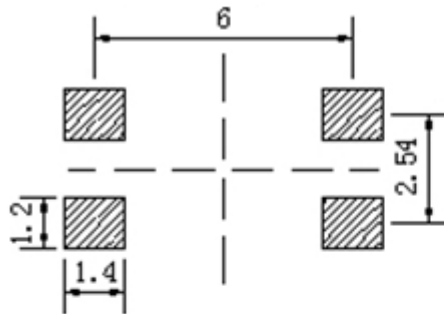
MODEL: T75A-Y313-12.80MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	12.80			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.33	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.97			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			8	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Total Frequency Tolerance	-4.6		+4.6	$\times 10^{-6}$	Including frequency stability vs.temperature, Initial frequency tolerance, 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 85°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 $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V, O_{Load}=15\text{ pF}$
	Holdover	-0.32		+0.32	$\times 10^{-6}$	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.
	G-sensitivity			2	$\times 10^{-9}\text{G}$	
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V$ and after 1h of operation.
	Aging Tolerance First Year	-1		+1	$\times 10^{-6}$	
Aging Tolerance 20 Years	-3		+3	$\times 10^{-6}$		



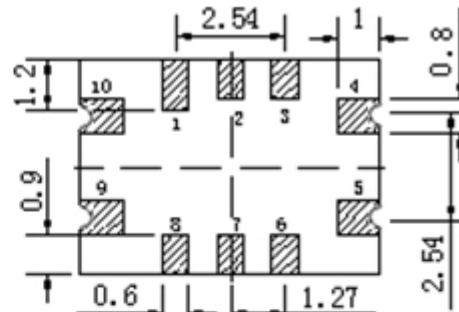
Power Supply	Current Consumption			6	mA	@25°C, V _{cc} =3.3V, V _c =1.65V, O _{load} =15pF.
	Supply Voltage	3.13	3.3	3.47	V	
Tri-state Control	Tri-state control (pin 8), input level low (VIL)			0.3V _{cc}	V	Device disabled (output in high impedance state)
	Tri-state control (pin 8), input level high (VIH)	0.7V _{cc}			V	Device enabled (operating)
Voltage Control Characteristics	Frequency Tuning Range	-15		-10	× 10 ⁻⁶	V _c =0.3V. measurement referenced to V _c =1.65V
		-1		+1	× 10 ⁻⁶	V _c =1.65V. measurement referenced to exactly 12.80MHz
		+10		+15	× 10 ⁻⁶	V _c =3V. measurement referenced to V _c =1.65V
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise @25°C		-90		dBc/Hz	10Hz
			-120			100Hz
			-140			1KHz
			-151			10KHz
			-152			100KHz
			-155			1MHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+105	°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 (°C)	-10~35°C				



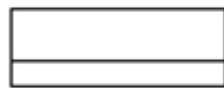
2. Mechanical Structure(mm)



Solder pad layout



Bottom view



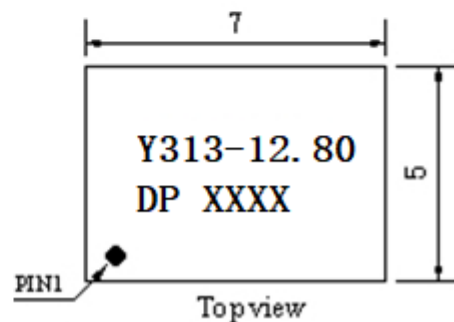
Right view



Front view

PIN FUNCTION

PIN	NOTATION	FUNCTION
1, 2, 3, 6, 7	NC	Not Connect
4	GND	GND
5	OUTPUT	RF Output
8	Tri-state	Enable/Disable
9	VCC	Supply Voltage
10	VC	Control Voltage



Topview

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

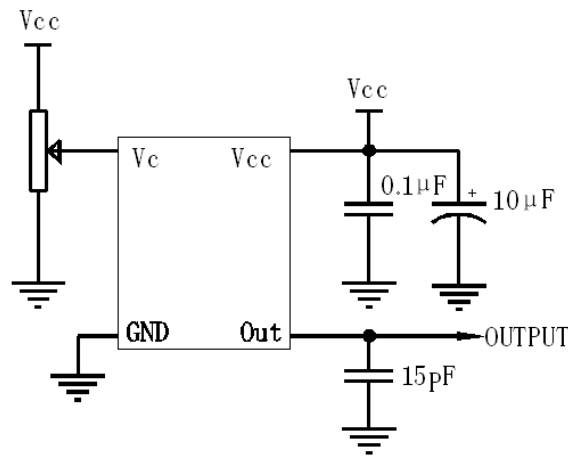
Note2: The first two xx representative: week

After two xx representative: year

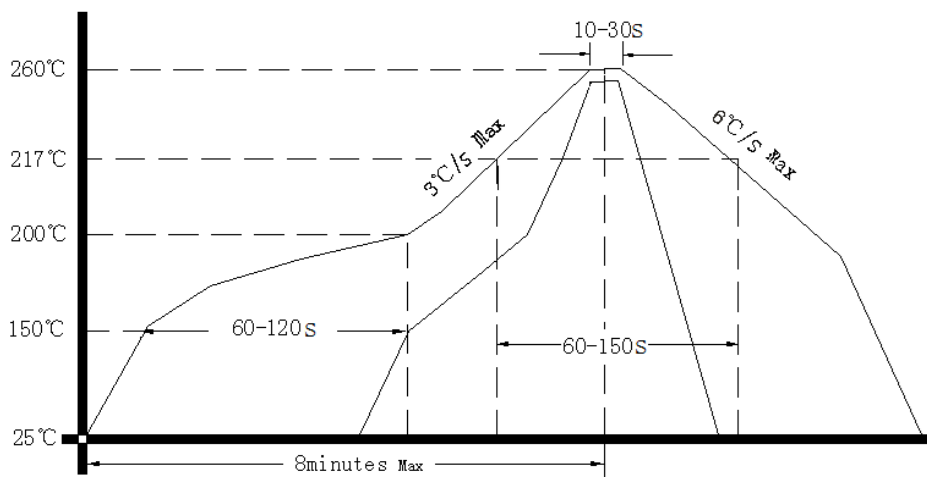
Note3: Referential Weight 0.2g



3. Test circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

