

Customer Code : _____

DATASHEET

DAPU P/N: T53-W312-10.00MHz-CN

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.05.26			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2022.05.26



1. Electrical Parameters

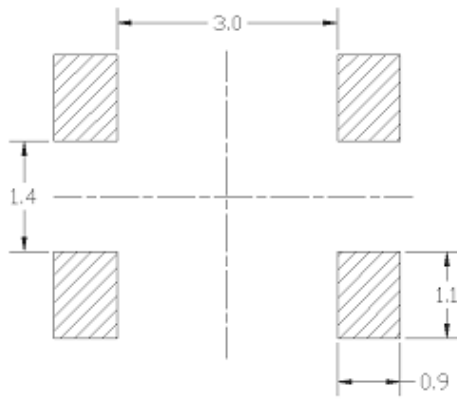
MODEL: T53-W312-10.00MHZ-CN						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			8	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.5		+0.5	$\times 10^{-6}$	T_A varied from -55°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.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_{cc}=3.3V$, $V_c=1.5V$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.2		+0.2	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}$, V_{cc} varied from 3.13V to 3.47V, $V_c=1.5V$ and $O_{Load}=15\text{ pF}$.
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_{cc}=3.3V$, $V_c=1.5V$, $O_{Load}=15\text{ pF}$
	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	Current Consumption			10	mA	@25°C, $V_{cc}=3.3V$, $V_c=1.5V$, $O_{load}=15\text{ pF}$.
	Supply Voltage	3.13	3.3	3.47	V	



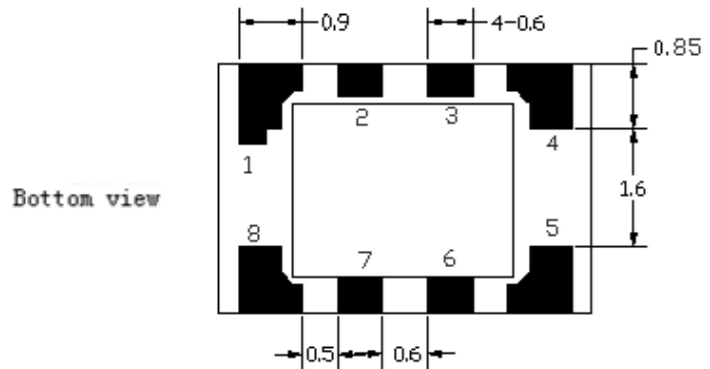
Voltage Control Characteristics	Frequency Tuning Range			-3	$\times 10^{-6}$	$V_c=0.5V$. measurement referenced to $V_c=1.5V$.
		-1		+1	$\times 10^{-6}$	$V_c=1.5V$. measurement referenced to Exactly 10.00MHz.
		+3			$\times 10^{-6}$	$V_c=2.5V$. measurement referenced to $V_c=1.5V$.
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K Ω
Phase Noise	Phase Noise @25°C		-90	-85	dBc/Hz	10Hz
			-115	-110		100Hz
			-135	-130		1KHz
			-145	-140		10KHz
			-148	-143		100KHz
			-150	-145		1MHz
Environmental Conditions	Operable Temperature	-55		+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 2A.				
	Thermal Shock	GJB 150.5A-2009,-55°C~85°C; 3 cycles; Soaking time:1 hour.				
	Vibration	GJB 150.16A-2009, Figure C.1 in Table C.7.				
Shock	GJB 150.18-2009, 40g; 11ms; half sine wave (3 times for each 3 directions X ,Y, Z).					
Full Package Storage	Relative humidity (%)	20%~70%				
	Temperature (°C)	-10~35°C				



2. Mechanical Structure(mm)



Solder pad layout



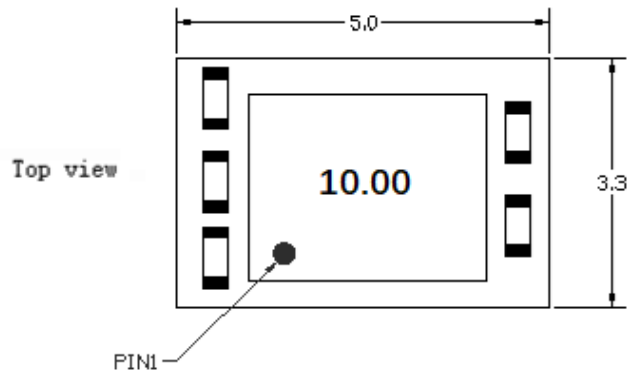
Bottom view



Side view

PIN FUNCTION

PIN	NOTATION	FUNCTION
1	VC	Control Voltage
2, 3	NC	Not Connect
4	GND	GND
5	OUTPUT	RF Output
6, 7	NC	Not Connect
8	WCC	Supply Voltage



Top view

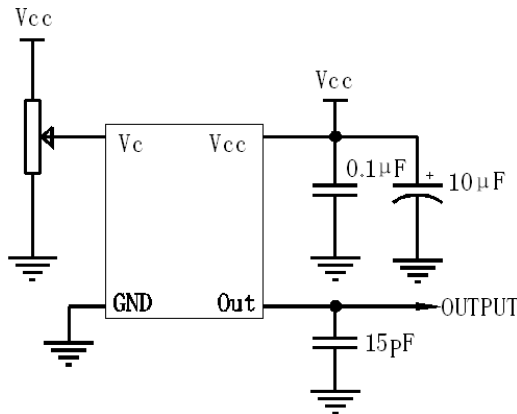
Note1: Tolerance ± 0.20 mm without mark

Note2: Referential Weight 0.05g

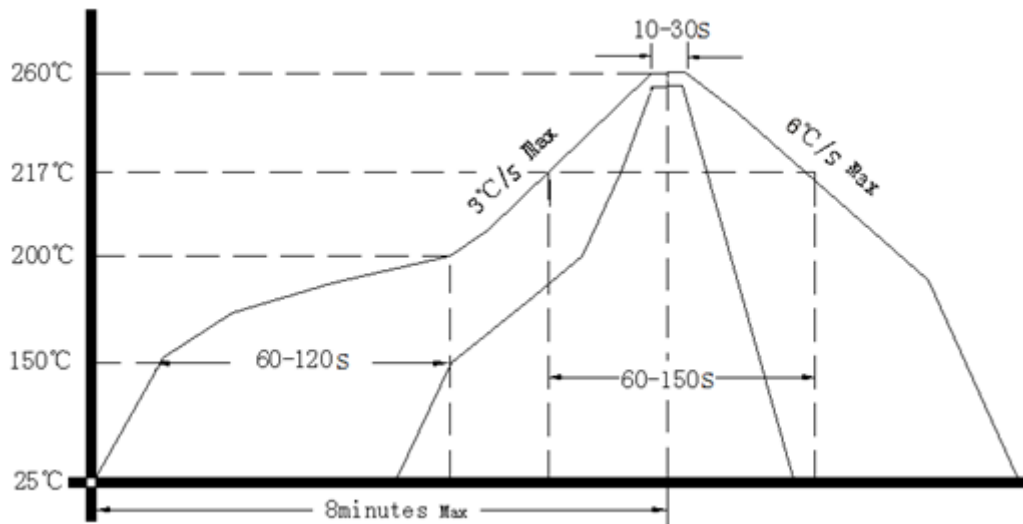
Note3: NC is not connect



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)

