

Customer Code : _____

DATASHEET

DAPU P/N: **T53-Y378-25.00MHz**

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2023.11.16			

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1. Electrical Parameters

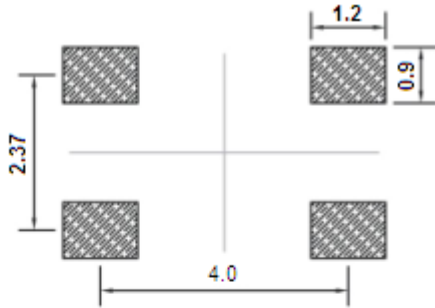
MODEL: T53-Y378-25.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	25.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.18	V	$V_{cc}=1.8V, O_{load}=15\text{ pF}$
	Output High Voltage	1.62			V	$V_{cc}=1.8V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			8	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	T_A varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, $V_{cc}=1.8V, V_c=0.9V, O_{load}=15\text{ pF}$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=1.8V, V_c=0.9V$ within 30 days after ex-works.
	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 1.71V to 1.89V, $V_c=0.9V$ and $O_{Load}=15\text{ pF}$.
	Frequency Tolerance vs. Load	-0.1		+0.1	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=1.8V, V_c=0.9V, O_{Load}=15\text{ pF}$
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=1.8V, V_c=0.9V$ and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
Power Supply	Current Consumption			6	mA	@25°C, $V_{cc}=1.8V, V_c=0.9V, O_{load}=15\text{ pF}$.
	Supply Voltage	1.71	1.8	1.89	V	



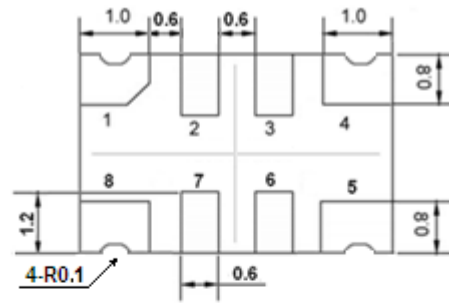
Voltage Control Characteristics	Frequency Tuning Range			-5	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=0.9V$.
		-1		+1	$\times 10^{-6}$	$V_c=0.9V$. measurement referenced to Exactly 25.00MHz.
		+5			$\times 10^{-6}$	$V_c=1.8V$. measurement referenced to $V_c=0.9V$.
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K Ω
Phase Noise	Phase Noise @25°C		-80	-75	dBc/Hz	10Hz
			-108	-103		100Hz
			-133	-128		1KHz
			-145	-140		10KHz
			-150	-145		100KHz
			-150	-145		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				



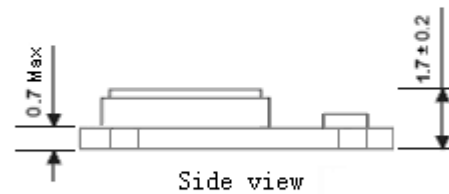
2. Mechanical Structure(mm)



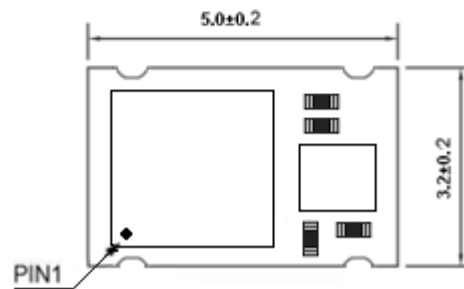
Solder pad layout



Bottom view



Side view



Top view

PIN FUNCTION

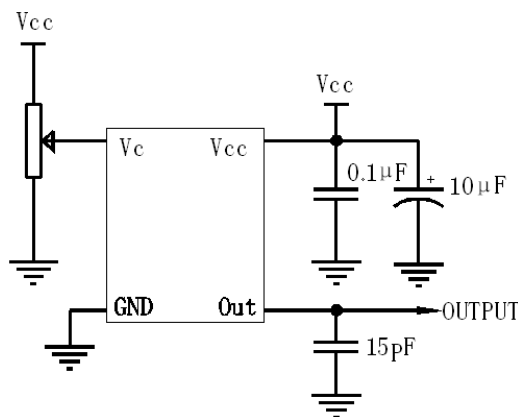
PIN	NOTATION	FUNCTION
1	VC	Control Voltage
2,3	NC	Not Connect
4	GND	GND
5	OUTPUT	RF Output
6,7	NC	Not Connect
8	VCC	Supply Voltage

Note1: Tolerance $\pm 0.20\text{mm}$ without mark

Note2: Referential Weight 0.05g

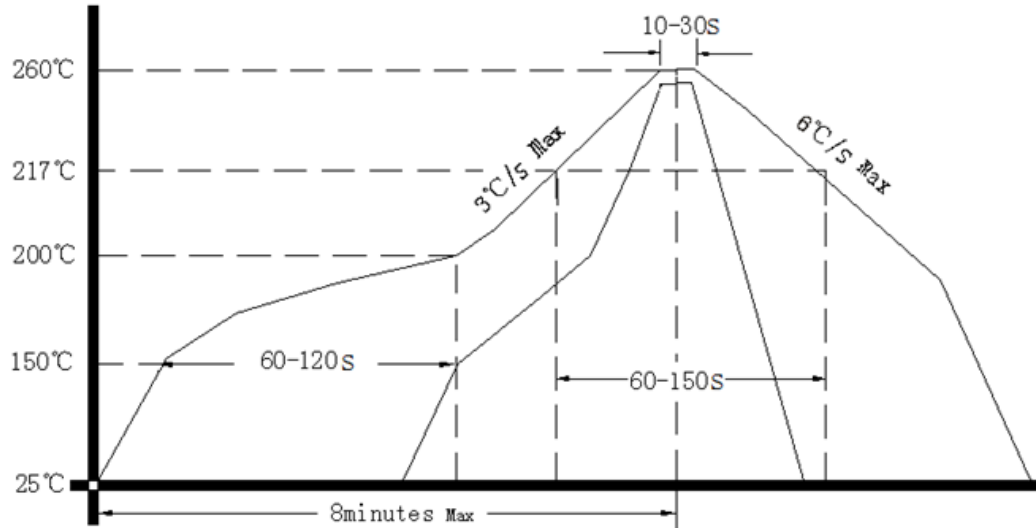
Note3: NC is not connect

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)

