

Customer Code : \_\_\_\_\_

# DATASHEET

DAPU P/N:     **T53-F319-100.00MHz**    

Customer P/N: \_\_\_\_\_

DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2025.01.20			

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### Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2024.01.24
1.1	The “Operating Current” “Mechanical Structure” changed	<i>Amway</i>	2025.01.20



## 1. Electrical Parameters

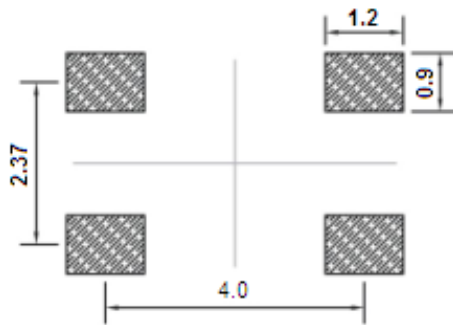
MODEL: T53-F319-100.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	100.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			2	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 -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, O_{load}=15\text{ pF}$ , temperature variable speed less than 2°C per minute.
	Nominal Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V$ 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 and $O_{Load}=15\text{ pF}$ .
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V$ and $O_{Load}=15\text{ pF}$ .
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$ and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
	Aging Tolerance 20 Years	-3		+3	$\times 10^{-6}$	
	Total Frequency Tolerance	-4.6		+4.6	$\times 10^{-6}$	Inclusive of calibration @25°C, frequency vs. change in temperature, change in supply voltage(+/-5%), load change(+/-5%), reflow soldering process and 20years aging.
Power Supply	Operating Current		12	15	mA	@25°C, $V_{cc}=3.3V$
	Supply Voltage	3.13	3.3	3.47	V	



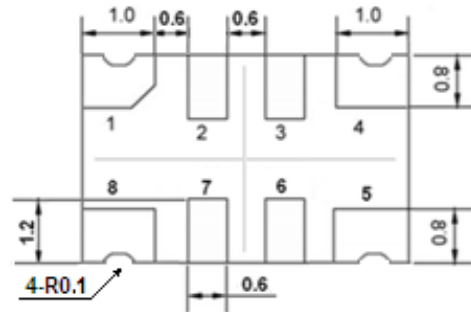
Phase Noise	Phase Noise @25°C		-76		dBc/Hz	10Hz
			-102			100Hz
			-124			1KHz
			-144			10KHz
			-159			100KHz
			-161			1MHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+105	°C	
	ESD Level	Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C				
	Moisture Sensitivity Level	Level 3.				
	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				



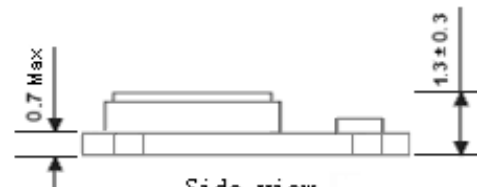
## 2. Mechanical Structure(mm)



Solder pad layout



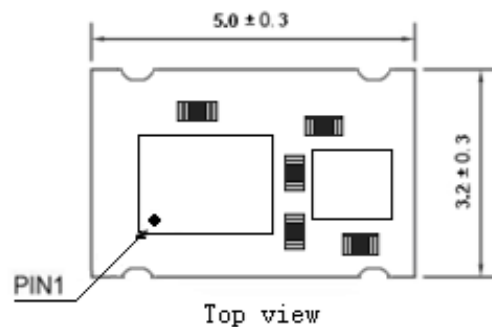
Bottom view



Side view

### PIN FUNCTION

PIN	NOTATION	FUNCTION
1	E/D	Enable/Disable
2, 3, 6	NA	No Access
4	GND	GND
5	OUTPUT	RF Output
7	NC	Not Connect
8	VCC	Supply Voltage



Top view

**Note1:** Tolerance  $\pm 0.10\text{mm}$  without mark

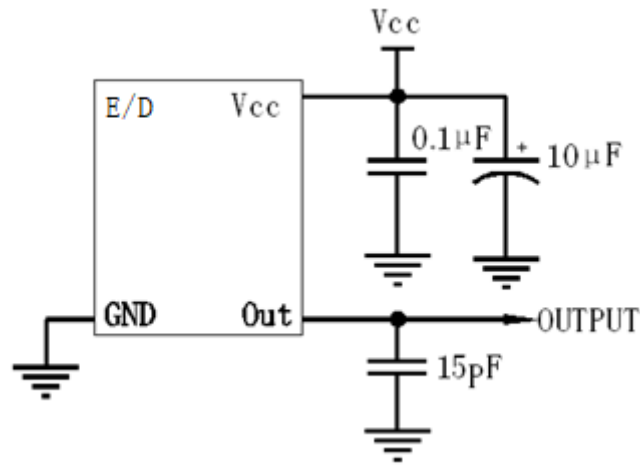
**Note2:** Referential Weight 0.05g

**Note3:** Pin 1 Function:

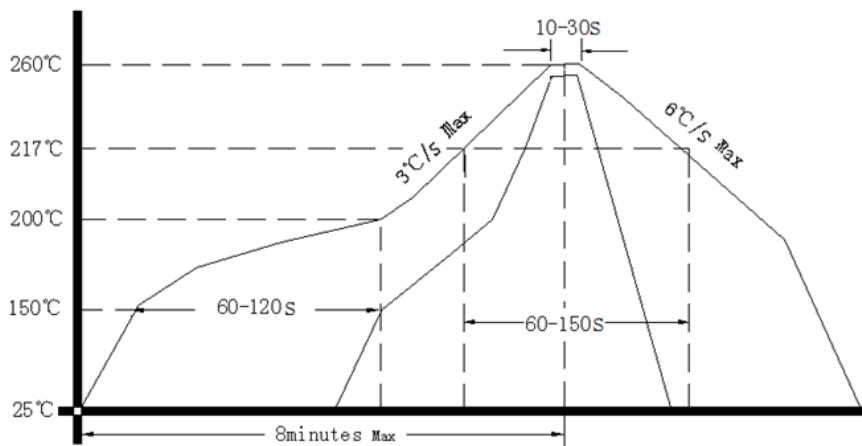
Enable/Disable	Open or Min.70% Vcc	Enable
Function	Max.30% Vcc	Disable



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package: Tape & Reel (mm)

