Customer Code : _____

DATASHEET

DAPU P/N : **T53-Q311-20.00MHz**

Customer P/N: _____

DAPU			Customer Approval
Drew	Audited	Approved	
Amway.wei	Carry.Wang	James.Liu	
Date: 2018.02.26			Stamp, please! Thanks!

Guangdong Dapu Telecom Technology Co.,Ltd

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2017.05.31
1.1	The" Mechanical Structure" changed	Amway	2018.02.26

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1. Electrical Parameters

MODEL： T53-Q311-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		20.00		MHz	
	Output Waveform		CMOS			
	Output Low Voltage			0.33	V	V_{cc}=3.3V, O_{load}=15pF
	Output High Voltage	2.97			V	V_{cc}=3.3V, O_{load}=15pF
	Duty Cycle	40	50	60	%	@50%
	Rise / Fall Time (10%~90%)			6	ns	
	Start time			2	ms	
	Load		15		pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	T_A varied from-40 to 85℃, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, V_{cc}=3.3V, V_c=1.5V O_{load}=15pF , temperature variable speed less than 2℃per minute.
	Initial Frequency Tolerance	-2		+2	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.5V within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.3		+0.3	$\times 10^{-6}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.135V to 3.465V, V_c=1.5V and O_{Load}=15pF .
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.5V ,O_{Load}=15pF .
	Aging Tolerance 1 Year	-2.5		+2.5	$\times 10^{-6}$	20 years at 25 ℃
Power Supply	Current Consumption			5	mA	@25℃, V_{cc}=3.3V, V_c=1.5V, O_{load}=15pF .
	Supply Voltage	3.135	3.3	3.465	V	
Phase Noise	Phase Noise		-120		dBc/Hz	100Hz
			-140			1KHz
			-153			10KHz
			-156			100KHz

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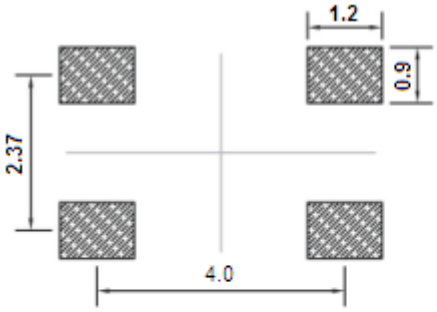
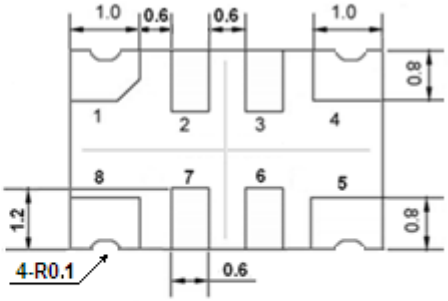
Voltage Control Characteristics	Frequency Tuning Range	-10		-5	$\times 10^{-6}$	V_c=0.5V. measurement referenced to V_c=1.5V
		-2		+2	$\times 10^{-6}$	V_c=1.5V. measurement referenced to exactly 20.00MHz
		+5		+10	$\times 10^{-6}$	V_c=2.5. measurement referenced to V_c=1.5V
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Environmental Conditions	Operable Temperature	-40		+85	℃	
	Storage Temperature	-55		+125	℃	
	Vibration Test	MIL-STD-883 2007 Condition A JESD22-B103 Condition 1				10~2000Hz, 1.52mm, 20G, each axis for4 hrs
	Thermal Shock	MIL-STD-883 1010 Condition B JESD22-A104 Condition B				-55℃, 125℃; soak time is 10 mins, with total 200 cycles
	Mechanical Shock	MIL-STD-883 2002 Condition B JESD22-B104 Condition B				1500G, half-sine, 0.5ms, each axis for 3 times.

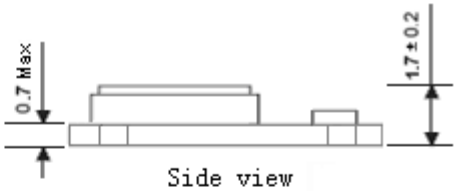
2. Mechanical Structure(mm)



Solder pad layout



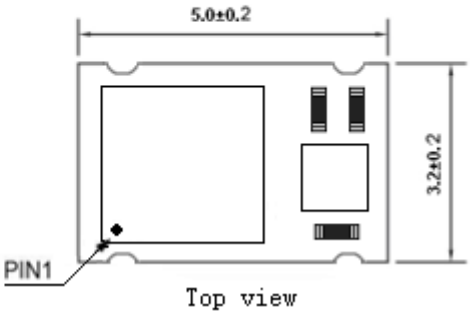
Bottom view



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	VCC	Supply Voltage



Top view

3. **Note1:** Tolerance ±0.20mm without mark
4. **Note2:** Referential weight 0.05g

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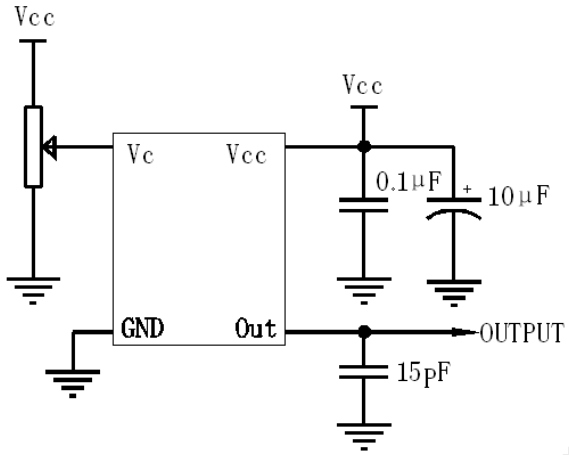
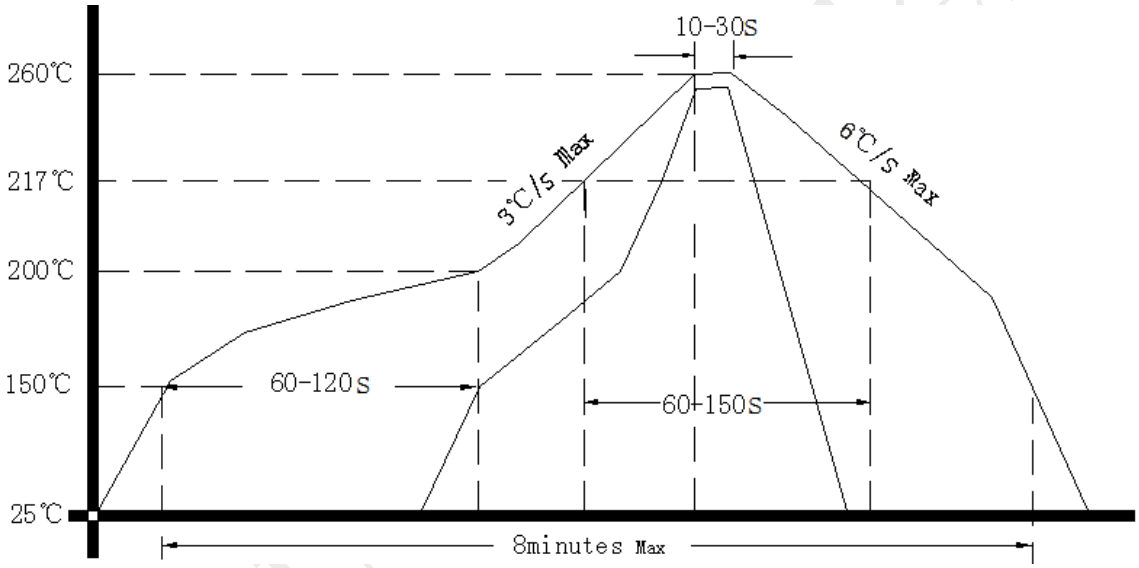
3.Test circuit



4.Output Waveform



5. Package: Tape & Reel (mm)