Customer Code : _____

DATASHEET

DAPU P/N: **T53-F313-19.20MHz**

Customer P/N: _____

DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Amway.wei	Carry.Wang	James.Liu	
Date: 2017.03.03			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2017.03.03

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1. Electrical Parameters

MODEL： T53-F313-19.20MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		19.20		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.1Vcc	V	V_{cc}=3.3V, O_{load}=15 pF
	Output High Voltage	0.9Vcc			V	V_{cc}=3.3V, O_{load}=15 pF
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time （10%~90%）			8	ns	@25℃
	Load		15		pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.5		+0.5	$\times 10^{-6}$	T_A varied from -40℃ to 85℃,measurement referenced to frequency observed with T_A=25℃, V_{cc}= 3.3V, V_c=1.65V, $O_{load=}$ 15pF, temperature variable speed less than 2℃per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.65V 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℃, V_{cc} varied from 3.13V to 3.47V, V_c=1.65V and O_{Load}= 15pF .
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with T_A= 25℃, V_{cc}=3.3V, V_c=1.65V, O_{Load}= 15pF
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	T_A=25℃, V_{cc}=3.3V, V_c=1.65V and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
Power Supply	Current Consumption			6	mA	@25℃, V_{cc}=3.3V, V_c=1.65V, O_{load}=15pF.
	Supply Voltage	3.13	3.3	3.47	V	

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Voltage Control Characteristics	Frequency Tuning Range			-10	$\times 10^{-6}$	V_c=0 V. measurement referenced to V_c=1.65V.
		-1		+1	$\times 10^{-6}$	V_c=1.65V. measurement referenced to Exactly 19.20MHz.
		+10			$\times 10^{-6}$	V_c=3.3V. measurement referenced to V_c=1.65V.
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise		-85	-80	dBc/Hz	10Hz
			-115	-110		100Hz
			-135	-130		1KHz
			-145	-140		10KHz
			-150	-145		100KHz
			-150	-145		1MHz
Environmental Conditions	Operable Temperature	-40		+85	℃	
	Storage Temperature	-55		+105	℃	
	ESD Level	Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; ANSI/ESDA/JEDEC JS-001-2010.				
	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 (℃)	-10~35℃				

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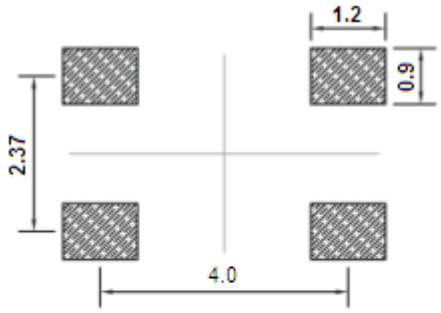
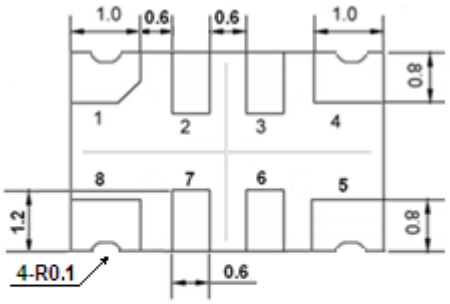
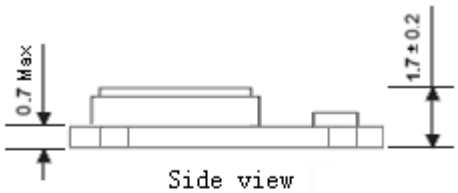
2. Mechanical Structure(mm)



Solder pad layout



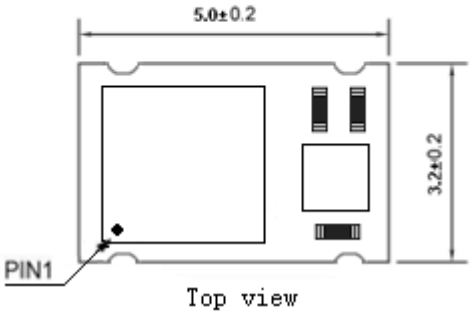
Bottom view



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



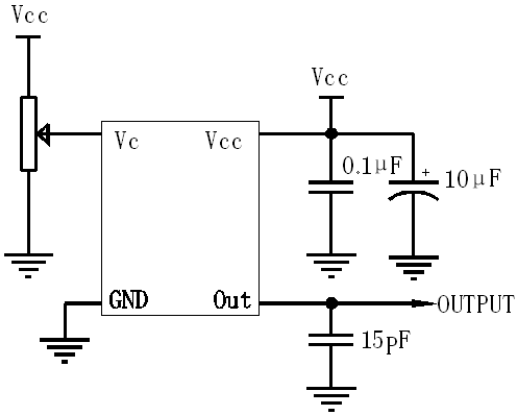
Top view

Note1: Tolerance ±0.20mm without mark

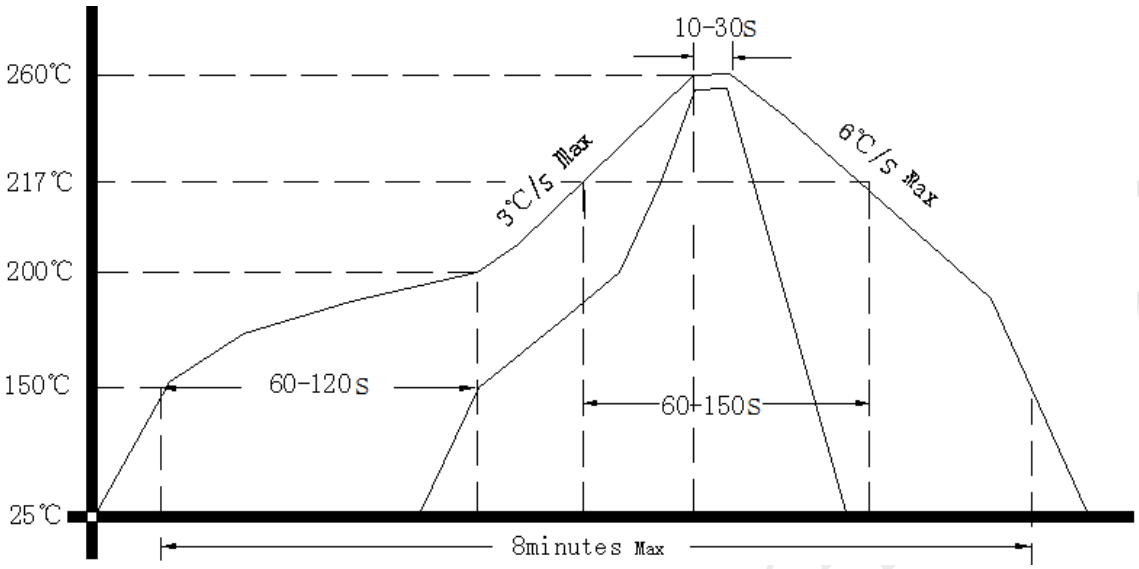
Note2: Referential weight 0.05g

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℃， soldering time ＜15 seconds.

5. Package: Tape & Reel (mm)