Customer Code : A018

DATASHEET

DAPU P/N: **T53-1803-19.20MHz**

Customer P/N:

DAPU			Customer Approval
Drew	Audited	Approved	
Amway.wei	Carry . Wang	James.Liu	
Date: 2015.05.05			Stamp, please! Thanks!

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2014.08.29
1.1	"Full Package Storage" added "Output Low/ High Voltage", "Nominal Frequency Tolerance- Test Condition" , "Frequency Tolerance vs. Supply Voltage" , "Frequency Tolerance vs. Load", "Frequency Slope" ,"Overall Stability-Test Condition" and "Storage Temperature" changed	Amway	2015.01.08
1.2	Modified the 1st page "Phase Noise" and "Mechanical Structure" changed	Amway	2015.05.05

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1. Electrical Parameters

MODEL： T53-1803-19.20MHz

Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		19.20		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.36	V	V_{cc}=3.3V, O_{load}=15 pF
	Output High Voltage	2.67			V	V_{cc}=3.3V, O_{load}=15 pF
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time （10%~90%）			5	ns	@25℃
	Load		15		pF	
	Start up Time		5	10	ms	90% amplitude
	Jitter		0.6	0.8	ps	12KHz~20MHz
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.1		+0.1	$\times 10^{-6}$	T_A varied from -40℃ to85℃, measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, O_{load}=15 pF , temperature variable speed less than 2℃per minute.
	Nominal Frequency Tolerance	-2		+2	$\times 10^{-6}$	Measurement referenced to exactly 19.20MHz ,with T_A=25℃, V_{cc}=3.3V within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.05		+0.05	$\times 10^{-6}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.13V to 3.47V and O_{Load}=15 pF .
	Frequency Tolerance vs. Load	-0.05		+0.05	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V and O_{Load}=15 pF .
	Frequency Slope	-0.02		+0.02	$\times 10^{-6}$/℃	Temperature variable speed 2℃per minute, test interval:1℃.
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	T_A=25℃, V_{cc}=3.3V and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	

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	Overall Stability	-4.6		+4.6	$\times 10^{-6}$	Inclusive of the following with T_A=25℃: - Frequency Tolerance vs. Operating Temperature Range - 3.3V±5% - 15pF load ±5% - 20 years aging reference to nominal frequency.
Power Supply	Operating Current			10	mA	@25℃, V_{cc}=3.3V, O_{Load}=15 pF .
	Supply Voltage	2.97	3.3	3.63	V	
Phase Noise	Phase Noise @25℃		-95	-85	dBc/Hz	10Hz
			-121	-111		100Hz
			-140	-132		1KHz
			-152	-145		10KHz
			-155	-148		100KHz
			-155	-150		1MHz
			-155	-150		10MHz
Environmental Conditions	Operable Temperature	-40		+85	℃	
	Storage Temperature	-55		+125	℃	
	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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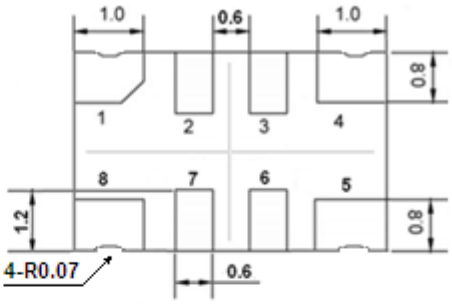
2. Mechanical Structure(mm)

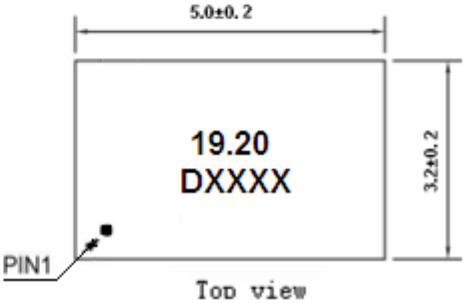


Bottom view

Side view

PIN FUNCTION

PIN	NOTATION	FUNCTION
1	NC	Not Connect
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 ±0.1mm without mark

Note2: The D representative: DAPU

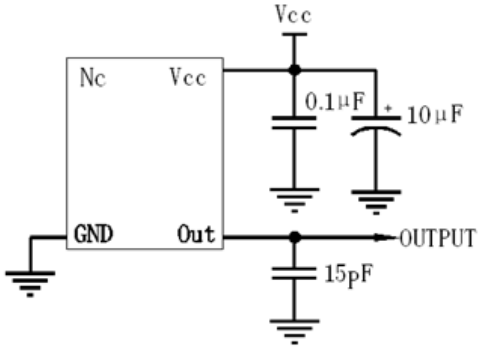
The first two xx representative: week

After two xx representative: year

Note3: Referential Weight 0.05g

Note4: NC is not connect

3. Test Circuit



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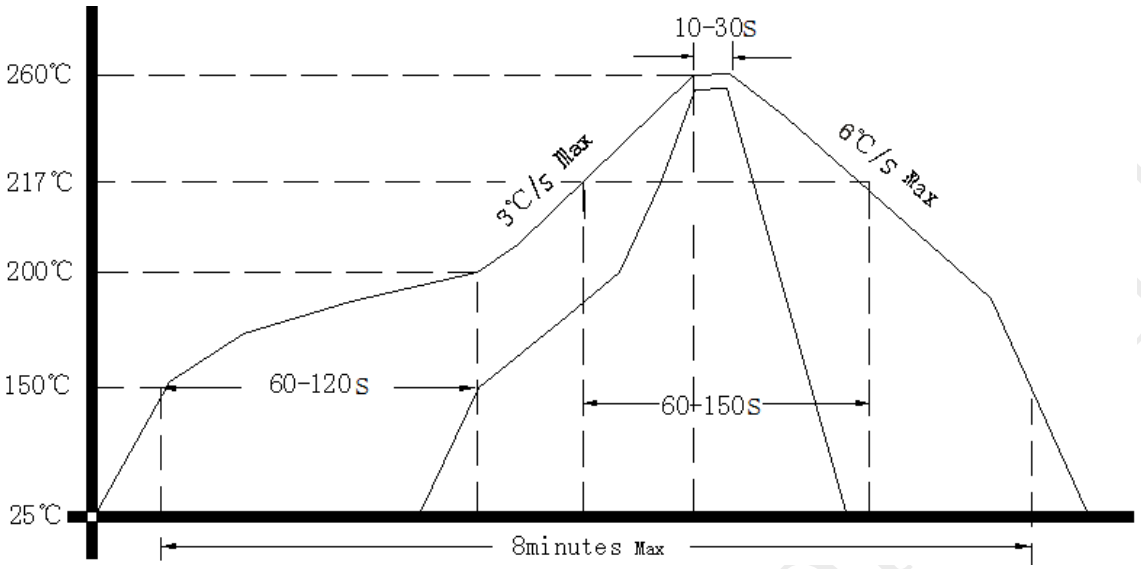
4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)