Customer Code : _____

DATASHEET

DAPU P/N: **T53-F586-38.40MHz**

Customer P/N: _____

DAPU			Customer Approval
Drew	Audited	Approved	
Amway.wei	Carry.Wang	Jason Zhao	
Date: 2020.11.10			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	2020.05.20
1.1	The “Frequency Tolerance vs. Operating Temperature Range” “Operable Temperature”changed	Amway	2020.10.22
1.2	The “Mechanical Structure” changed	Amway	2020.11.10

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1. Electrical Parameters

MODEL： T53-F586-38.40MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	38.40			MHz	
	Output Waveform	Clipped Sine Wave				
	Vp-p	0.8			V	
	Start-up Time			2	ms	Time taken for output to reach 90% of specified output level.
	Load	10KΩ//10pF				
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.25		+0.25	$\times 10^{-6}$	T_A varied from -40℃ to 105℃, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, V_{cc}=2.85V, V_c=1.5V, O_{load}=10KΩ//10pF, temperature variable speed less than 1℃per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=2.85V, V_c=1.5V within 30 days after ex-works.
	Reflow Shift	-1		+1	$\times 10^{-6}$	Two consecutive reflows as per attached profile after 2hours relaxation at 25℃.
	Frequency slope	-0.1		+0.1	$\times 10^{-6}$/℃	Minimum of one frequency reading every 2℃ over the operating temperature range.
	Frequency Tolerance vs. Supply Voltage	-0.1		+0.1	$\times 10^{-6}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 2.7V to 3.0V, V_c=1.5V and O_{Load}=10KΩ//10pF.
	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}=2.85V, V_c=1.5V and O_{Load}=10KΩ//10pF .
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	T_A=25℃,V_{cc}=2.85V, V_c=1.5V and after 1h of operation.
	Aging Tolerance 1 Month	-0.2		+0.2	$\times 10^{-6}$	
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
	Aging Tolerance 3 Year	-2		+2	$\times 10^{-6}$	
Power Supply	Operating Current			3.7	mA	@25℃,V_{cc}=2.85V, V_c=1.5V, O_{Load}=10KΩ//10pF.
	Supply Voltage	2.7	2.85	3.0	V	

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Voltage Control	Frequency tuning range	-10		-5	$\times 10^{-6}$	V_c=0.5V. measurement referenced to V_c=1.5V.
		-1		+1	$\times 10^{-6}$	V_c=1.5V. measurement referenced to Exactly 38.40MHz.
		+5		+10	$\times 10^{-6}$	V_c=2.5V. measurement referenced to V_c=1.5V.
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise @25℃		-55		dBc/Hz	1Hz
			-84			10Hz
			-108			100Hz
			-130			1KHz
			-148			10KHz
			-153			100KHz
			-153			1MHz
RMS Phase Jitter			0.3		ps	12KHz to 5MHz
Environmental Conditions	Operable Temperature	-40		+105	℃	
	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; 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 (℃)	-10~35℃				

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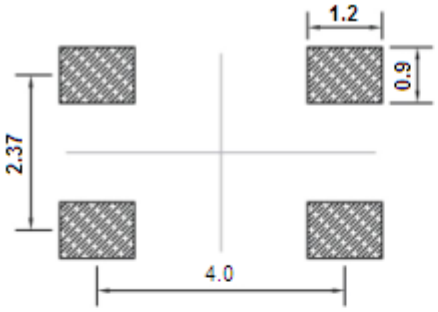
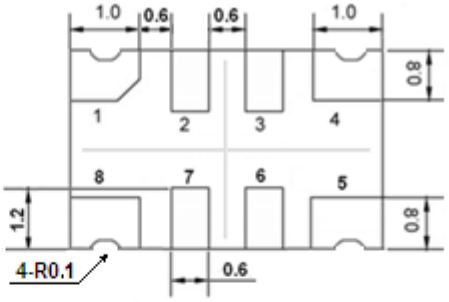
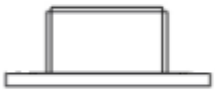
2. Mechanical Structure(mm)



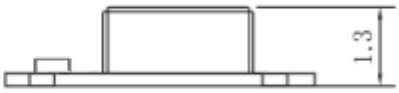
Solder pad layout



Bottom view



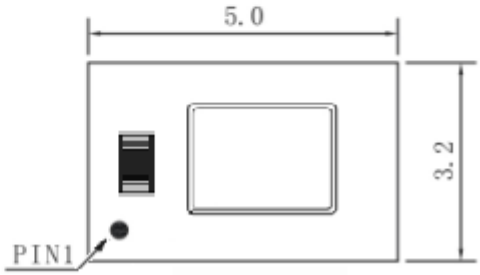
Right view



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 ±0.2mm without mark

Note2: Referential weight 0.05g

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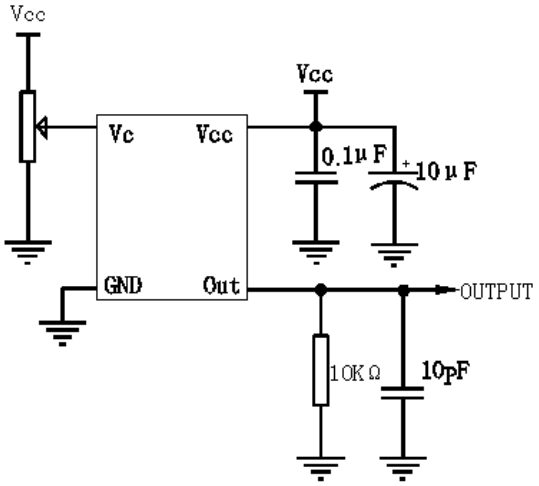
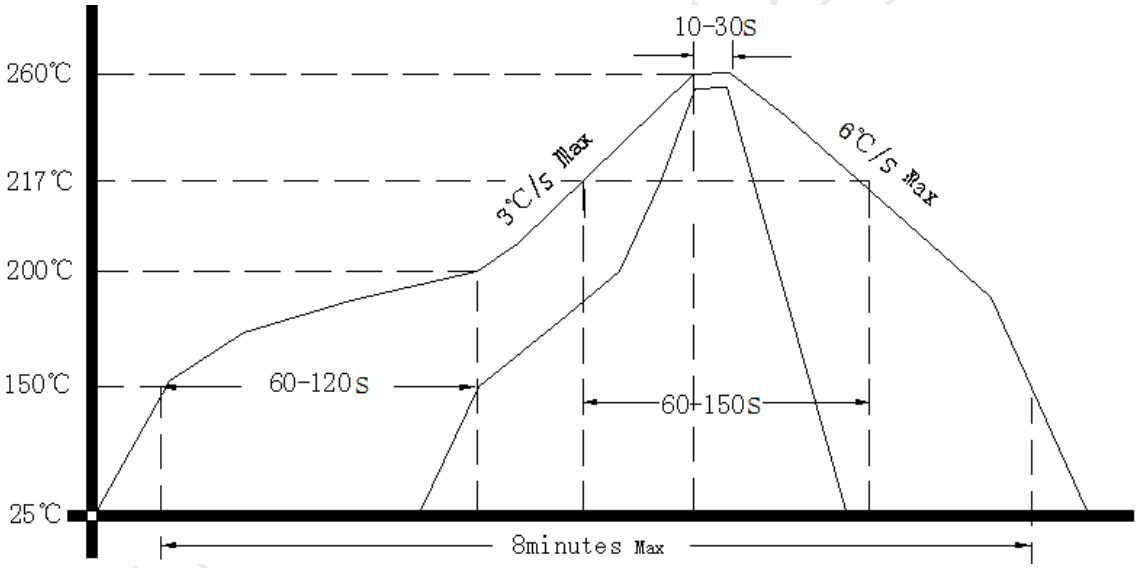
3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)