

Travelling Merchant: _____

DATASHEET

Standard: T53-F513-52.00MHz-B
P/N: _____

Plot			The Label
Drew	Audited	Approved	
Date: 2024.08.15			Stamp, please! Thanks!

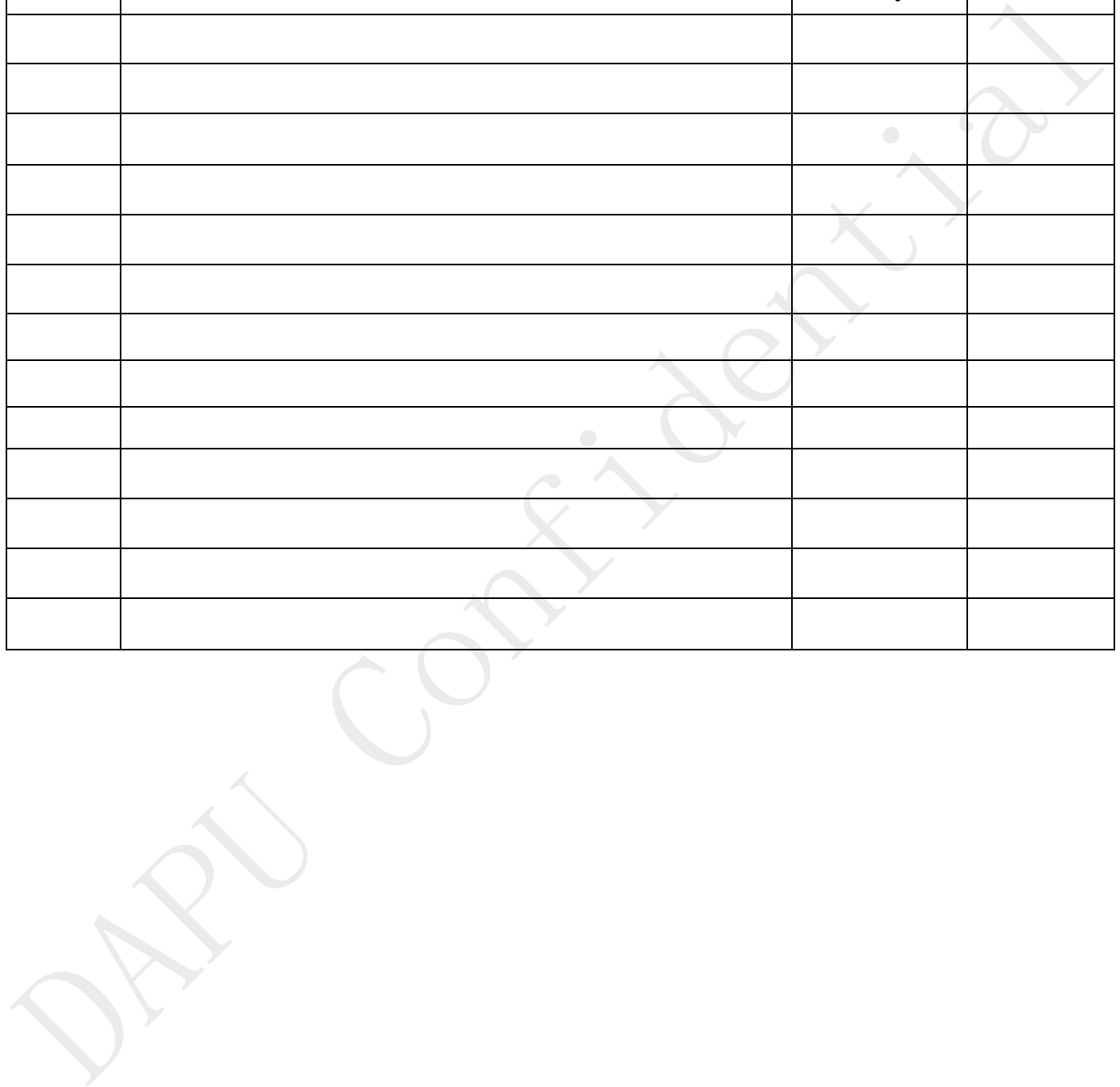
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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2024.08.15





1. Electrical Parameters

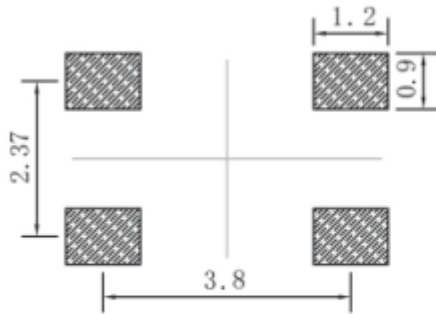
MODEL: T53-F513-52.00MHz-B						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	52.00			MHz	
	Output Waveform	Clipped Sine Wave				
	V _{p-p}	0.8			V	
	Symmetry	40		60	%	
	Start-up time			2	ms	Time taken for output to reach 90% of specified output level.
	Spurious Suppression			-75	dBc	
	Load	10KΩ//10pF				
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.4		+0.4	× 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} =2.85V, V _c =1.5V, O _{load} =10KΩ//10pF, temperature variable speed less than 1°C per minute.
	Reflow Shift			+1.5	× 10 ⁻⁶	After two reflow soldering, Measurement referenced to the nominal frequency.
	Short-Term Stability: Allan Variance			0.2	× 10 ⁻⁹	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 1s.
	Frequency Tolerance vs. Supply Voltage	-0.02		+0.02	× 10 ⁻⁶	measurement referenced to frequency observed T _A =25°C, V _{cc} varied from 2.71V to 2.99V, V _c =1.5V and O _{Load} =10KΩ//10pF.
	Frequency Tolerance vs. Load	-0.02		+0.02	× 10 ⁻⁶	10% load change measurement referenced to frequency observed with T _A =25°C, V _{cc} =2.85V, V _c =1.5V and O _{Load} =10KΩ//10pF.
	Aging Tolerance Per Day	-0.01		+0.01	× 10 ⁻⁶	T _A =25°C, V _{cc} =2.85V, V _c =1.5V and after 1h of operation.
	Aging Tolerance 1 Year	-0.5		+0.5	× 10 ⁻⁶	



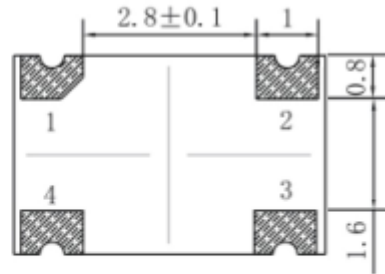
Power Supply	Supply Current			5	mA	@25°C, V _{cc} =2.85V, V _c =1.5V, O _{Load} =10KΩ//10pF.
	Supply Voltage	2.71	2.85	2.99	V	
Voltage Control	Frequency tuning range			-3	× 10 ⁻⁶	V _c =0.5V. measurement referenced to V _c =1.5V.
		-1.5		+1.5	× 10 ⁻⁶	V _c =1.5V. measurement referenced to Exactly 52.00MHz.
		+3			× 10 ⁻⁶	V _c =2.5V. measurement referenced to V _c =1.5V.
	Linearity			10	%	
	Slope	Positive				
Phase Noise	Phase Noise		-110		dBc/Hz	100Hz
			-130			1KHz
			-145			10KHz
			-150			100KHz
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



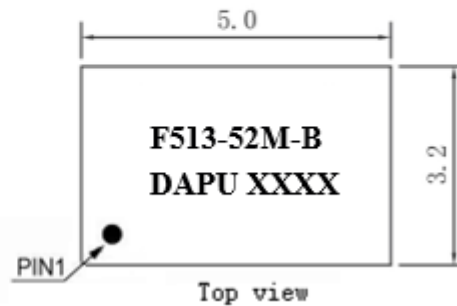
Right view



Side view

PIN FUNCTION

PIN	NOTATION	FUNCTION
1	VC	Control Voltage
2	GND	GND
3	OUTPUT	RF Output
4	VCC	Supply Voltage

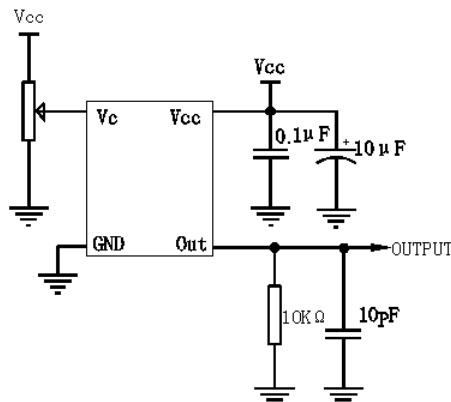


Top view

Note1: Tolerance $\pm 0.2\text{mm}$ without mark

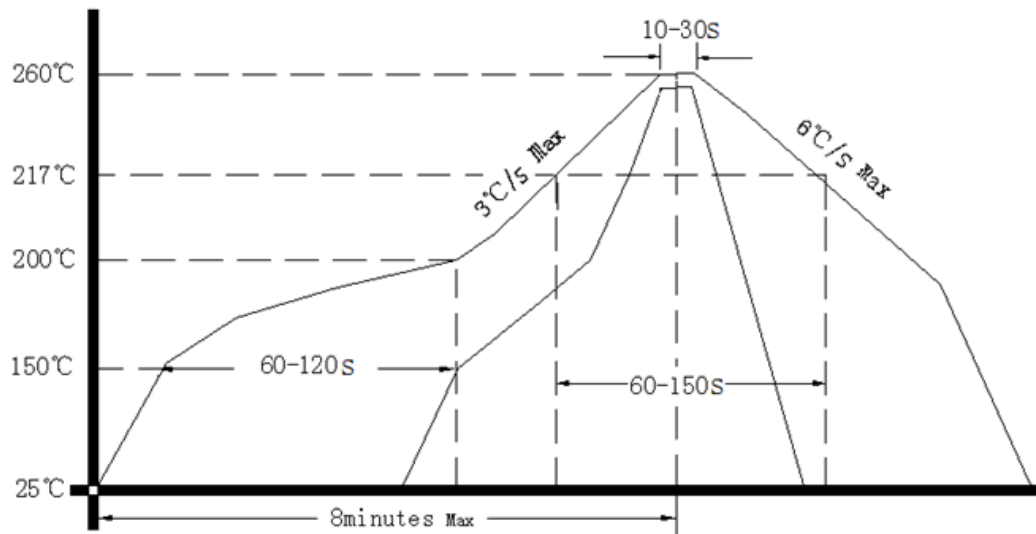
Note2: The first two xx representative: year
After two xx representative: week

3. Test Circuit





4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

