

Travelling Merchant: \_\_\_\_\_

# DATASHEET

Standard:           **T53-Y513-52.00MHz**            
P/N: \_\_\_\_\_  
\_\_\_\_\_

Plot			The Label
Drew	Audited	Approved	
			Stamp, please! Thanks!
Date: 2023.04.03			

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## 1. Electrical Parameters

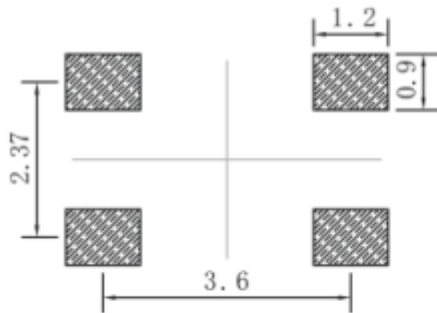
MODEL: T53-Y513-52.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	52.00			MHz	
	Output Waveform	Clipped Sine Wave				
	V <sub>p-p</sub>	0.8			V	
	Symmetry	40		60	%	
	Start-up time			2	ms	Time taken for output to reach 90% of specified output level.
	Spurious Suppression			-75	dBc	
	Load	10KΩ//10pF				
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	× 10 <sup>-6</sup>	T <sub>A</sub> varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$ , V <sub>cc</sub> =2.85V, V <sub>c</sub> =1.5V, O <sub>load</sub> =10KΩ//10pF, temperature variable speed less than 1°C per minute.
	Reflow Shift			+1.5	× 10 <sup>-6</sup>	After two reflow soldering, Measurement referenced to the nominal frequency.
	Short-Term Stability: Allan Variance			0.2	× 10 <sup>-9</sup>	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 <sup>-6</sup>	measurement referenced to frequency observed T <sub>A</sub> =25°C, V <sub>cc</sub> varied from 2.71V to 2.99V, V <sub>c</sub> =1.5V and O <sub>Load</sub> =10KΩ//10pF.
	Frequency Tolerance vs. Load	-0.02		+0.02	× 10 <sup>-6</sup>	10% load change measurement referenced to frequency observed with T <sub>A</sub> =25°C, V <sub>cc</sub> =2.85V, V <sub>c</sub> =1.5V and O <sub>Load</sub> =10KΩ//10pF.
	Aging Tolerance Per Day	-0.01		+0.01	× 10 <sup>-6</sup>	T <sub>A</sub> =25°C, V <sub>cc</sub> =2.85V, V <sub>c</sub> =1.5V and after 1h of operation.
	Aging Tolerance 1 Year	-0.5		+0.5	× 10 <sup>-6</sup>	



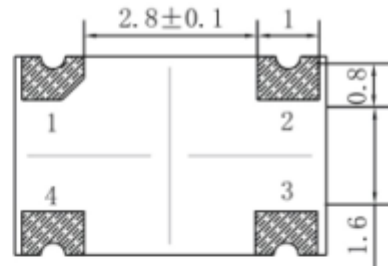
Power Supply	Supply Current			5	mA	@25°C, V <sub>cc</sub> =2.85V, V <sub>c</sub> =1.5V, O <sub>Load</sub> =10KΩ//10pF.
	Supply Voltage	2.71	2.85	2.99	V	
Voltage Control	Frequency tuning range			-3	× 10 <sup>-6</sup>	V <sub>c</sub> =0.5V. measurement referenced to V <sub>c</sub> =1.5V.
		-1.5		+1.5	× 10 <sup>-6</sup>	V <sub>c</sub> =1.5V. measurement referenced to Exactly 52.00MHz.
		+3			× 10 <sup>-6</sup>	V <sub>c</sub> =2.5V. measurement referenced to V <sub>c</sub> =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 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 (°C)	-10~35°C				



## 2. Mechanical Structure(mm)



Solder pad layout



Bottom view



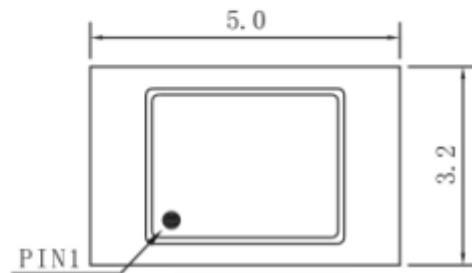
Right view



Side view

### PIN FUNCTION

PIN	FUNCTION
1	V <sub>C</sub>
2	GND
3	OUTPUT
4	V <sub>CC</sub>

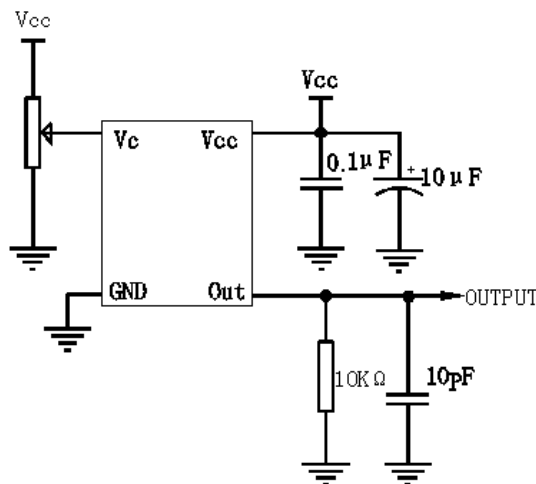


Top view

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

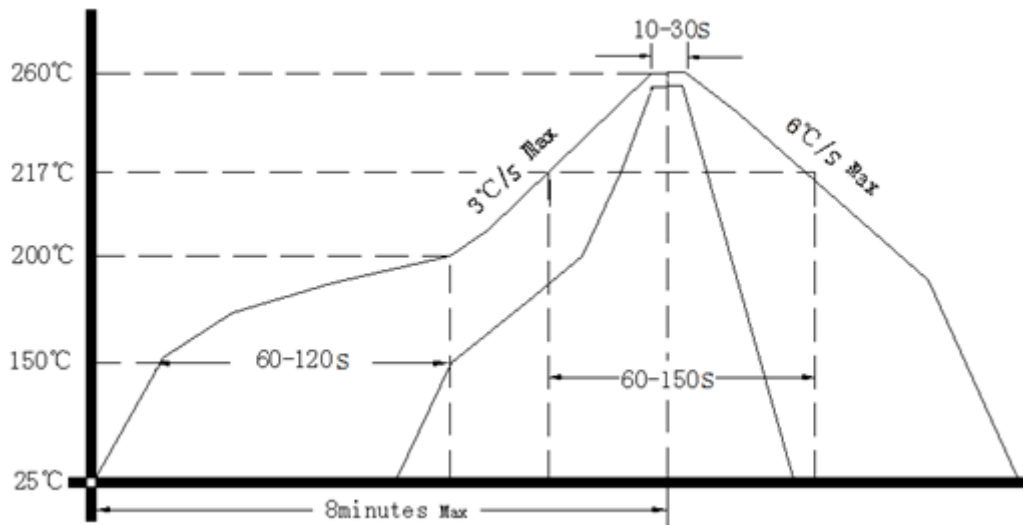
**Note2:** Referential weight 0.05g

## 3. Test Circuit





#### 4. Reflow Soldering Curve (RoHS)



#### 5. Package: Tape & Reel (mm)

