

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

# DATASHEET

Standard:     **T53-G513-25.00MHz**    

P/N: \_\_\_\_\_

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
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Date: 2019.09.03			

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## 1. Electrical Parameters

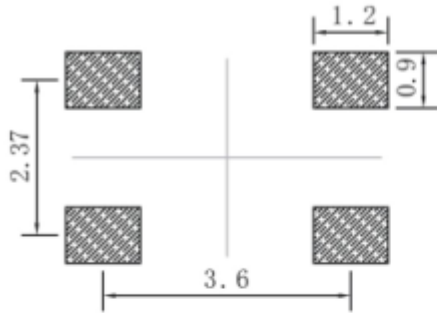
MODEL: T53-G513-25.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	25.00			MHz	
	Output Waveform	Clipped Sine Wave				
	Vp-p	0.8			V	
	Start-up Time			15	ms	90% amplitude
	Load	10KΩ//10pF				
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.5		+0.5	$\times 10^{-6}$	$T_A$ varied from $-40^{\circ}\text{C}$ to $85^{\circ}\text{C}$ , measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$ , $V_{cc}=3.0\text{V}$ , $V_c=1.5\text{V}$ , $O_{load}=10\text{K}\Omega//10\text{pF}$ , temperature variable speed less than $2^{\circ}\text{C}$ per minute.
	Nominal Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=3.0\text{V}$ , $V_c=1.5\text{V}$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.025		+0.025	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^{\circ}\text{C}$ , $V_{cc}$ varied from 2.85V to 3.15V, $V_c=1.5\text{V}$ and $O_{Load}=10\text{K}\Omega//10\text{pF}$ .
	Frequency Tolerance vs. Load	-0.05		+0.05	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=3.0\text{V}$ , $V_c=1.5\text{V}$ and $O_{Load}=10\text{K}\Omega//10\text{pF}$ .
	Slope Over Temperature	-0.2		+0.2	$\times 10^{-6}/^{\circ}\text{C}$	
	Reflow Shift	-0.5		+0.5	$\times 10^{-6}$	Pre to post reflow $\Delta F$ (measured $\geq 60$ min after reflow)
	Acceleration Stability		<2		$\times 10^{-9}/\text{g}$	
	Root Allan Variance		0.1	1	$\times 10^{-9}$	Tau=1.0s
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	$T_A=25^{\circ}\text{C}$ , $V_{cc}=3.0\text{V}$ , $V_c=1.5\text{V}$ and after 1h of operation.
	Aging Tolerance 10 Year	-3		+3	$\times 10^{-6}$	
Power Supply	Supply Current		3	4	mA	@ $25^{\circ}\text{C}$ , $V_{cc}=3.0\text{V}$ , $V_c=1.5\text{V}$ , $O_{Load}=10\text{K}\Omega//10\text{pF}$ .
	Supply Voltage	2.85	3.0	3.15	V	



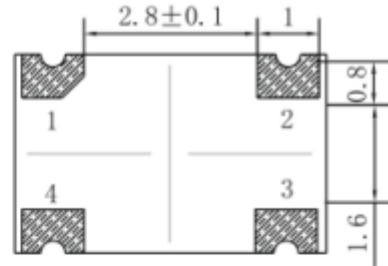
Voltage Control	Frequency tuning range	-10	-5	$\times 10^{-6}$	$V_c=0.5V$ . measurement referenced to $V_c=1.5V$ .	
		-1	+1	$\times 10^{-6}$	$V_c=1.5V$ . measurement referenced to Exactly 25.00MHz.	
		+5	+10	$\times 10^{-6}$	$V_c=2.5V$ . measurement referenced to $V_c=1.5V$ .	
	Linearity		10	%		
	Slope		+7	ppm/V		
	Input Impedance	100		K $\Omega$		
Phase Noise	Phase Noise		-60	dBc/Hz	1Hz	
			-90		10Hz	
			-114		100Hz	
			-137		1KHz	
			-153		10KHz	
			-155		100KHz	
			-155		1MHz	
RMS Jitter	RMS Jitter	700	fs	12KHz-5MHz		
Environmental Conditions	Operable Temperature	-40	+85	$^{\circ}C$		
	Storage Temperature	-55	+105	$^{\circ}C$		
	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 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 ( $^{\circ}C$ )	-10~35 $^{\circ}C$				



## 2. Mechanical Structure(mm)



Solder pad layout



Bottom view



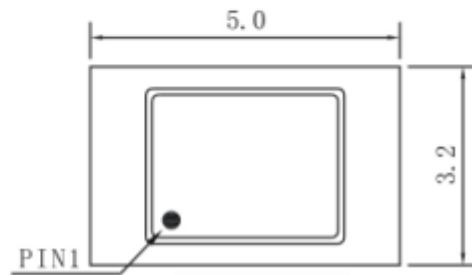
Right view



Side view

PIN FUNCTION

PIN	FUNCTION
1	VC
2	GND
3	OUTPUT
4	VCC



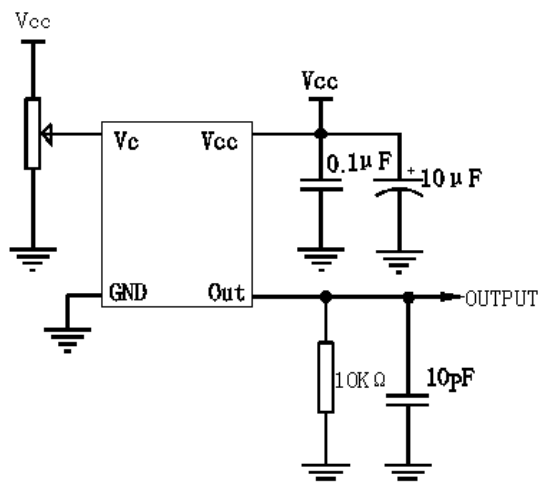
Top view

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

**Note2:** Referential weight 0.05g

**Note3:** NC is not connect

## 3. Test Circuit





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



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

