



1. Electrical Parameters

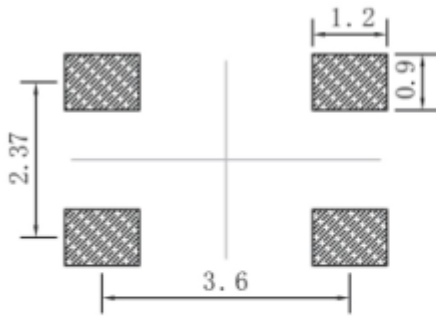
MODEL: T53-0201-19.20MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	19.20			MHz	
	Output Waveform	Clipped Sine Wave				
	Vp-p	0.8			V	
	Load	10KΩ//10pF				
	Jitter			1.7	ps	RMS(10KHz to 1MHz)
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.2		+0.2	$\times 10^{-6}$	T_A varied from -20°C to 70°C , measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$, $V_{\text{cc}}=3.3\text{V}$, $V_c=1.5\text{V}$, $O_{\text{load}}=10\text{K}\Omega//10\text{pF}$, temperature variable speed less than 1°C per minute.
	Initial Frequency Tolerance	-2		+2	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$, 60 minutes after reflow.
	Frequency Tolerance vs. Supply Voltage	-0.01		+0.01	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^{\circ}\text{C}$, V_{cc} varied from 3.23V to 3.37V, $V_c=1.5\text{V}$ and $O_{\text{Load}}=10\text{K}\Omega//10\text{pF}$.
	Frequency Tolerance vs. Load		± 5		$\times 10^{-9}$	2% load change measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$, $V_{\text{cc}}=3.3\text{V}$, $V_c=1.5\text{V}$ and $O_{\text{Load}}=10\text{K}\Omega//10\text{pF}$.
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^{\circ}\text{C}$, $V_{\text{cc}}=3.3\text{V}$, $V_c=1.5\text{V}$ 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 Years	-2		+2	$\times 10^{-6}$		
Power Supply	Operating Current			3	mA	@ 25°C , $V_{\text{cc}}=3.3\text{V}$, $V_c=1.5\text{V}$, $O_{\text{Load}}=10\text{K}\Omega//10\text{pF}$.
	Supply Voltage	3.15	3.3	3.45	V	



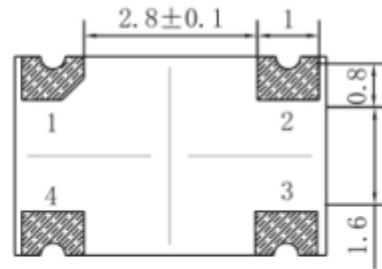
Voltage Control	Frequency tuning range	-15		-5	$\times 10^{-6}$	$V_c=0.5V$. measurement referenced to $V_c=1.5V$.
		-2		+2	$\times 10^{-6}$	$V_c=1.5V$. measurement referenced to Exactly 19.20MHz.
		+5		+15	$\times 10^{-6}$	$V_c=2.5V$. measurement referenced to $V_c=1.5V$.
	Linearity			10	%	
	Slope	Positive				
Input Impedance	100				K Ω	
Phase Noise	Phase Noise @25°C		-60	-55	dBc/Hz	1Hz
			-90	-85		10Hz
			-116	-111		100Hz
			-138	-133		1KHz
			-150	-145		10KHz
Environmental Conditions	Operable Temperature	-20		+70	°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; 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 (°C)	-10~35°C				



2. Mechanical Structure(mm)



Solder pad layout



Bottom view



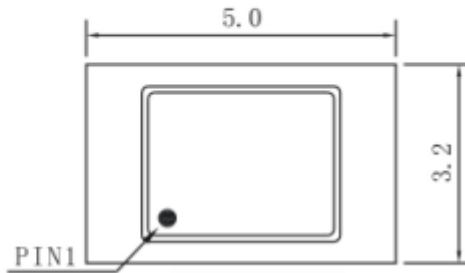
Right view



Side view

PIN FUNCTION

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



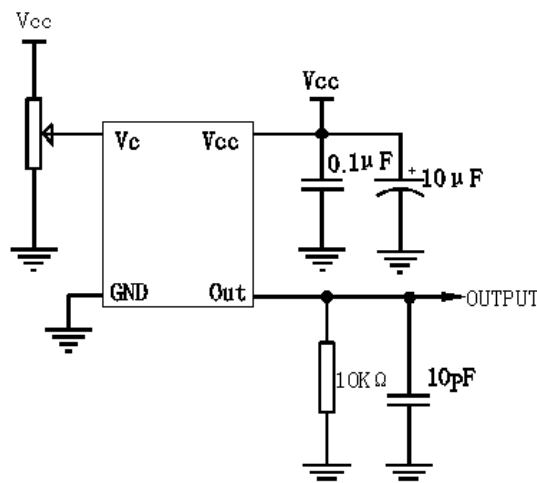
Top view

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

Note2: Referential Weight 0.05g

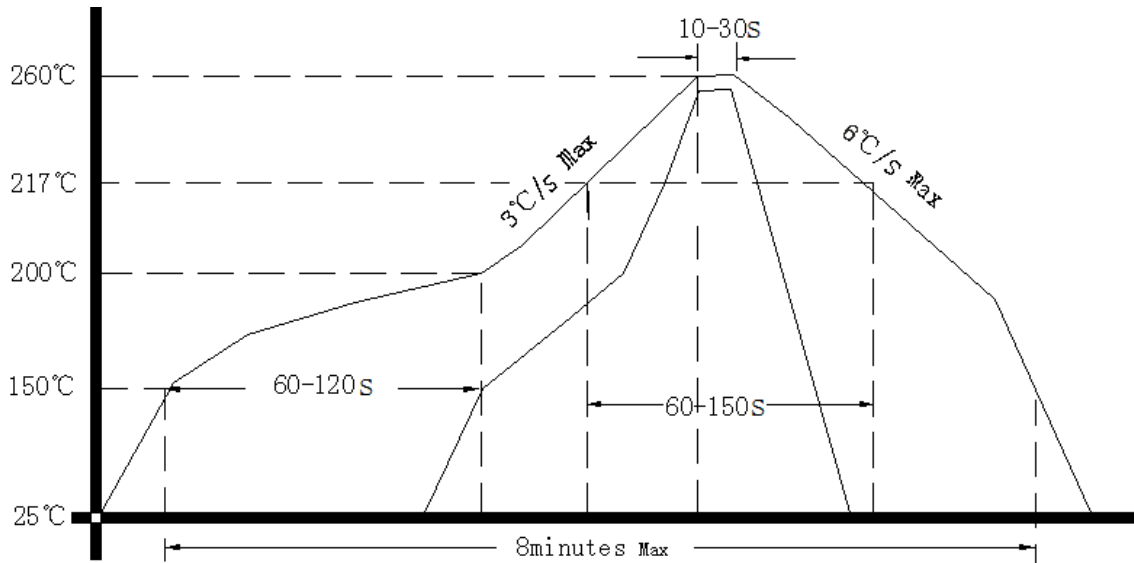
Note3: NC is not connect

3. Test Circuit





4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

