



1. Electrical Parameters

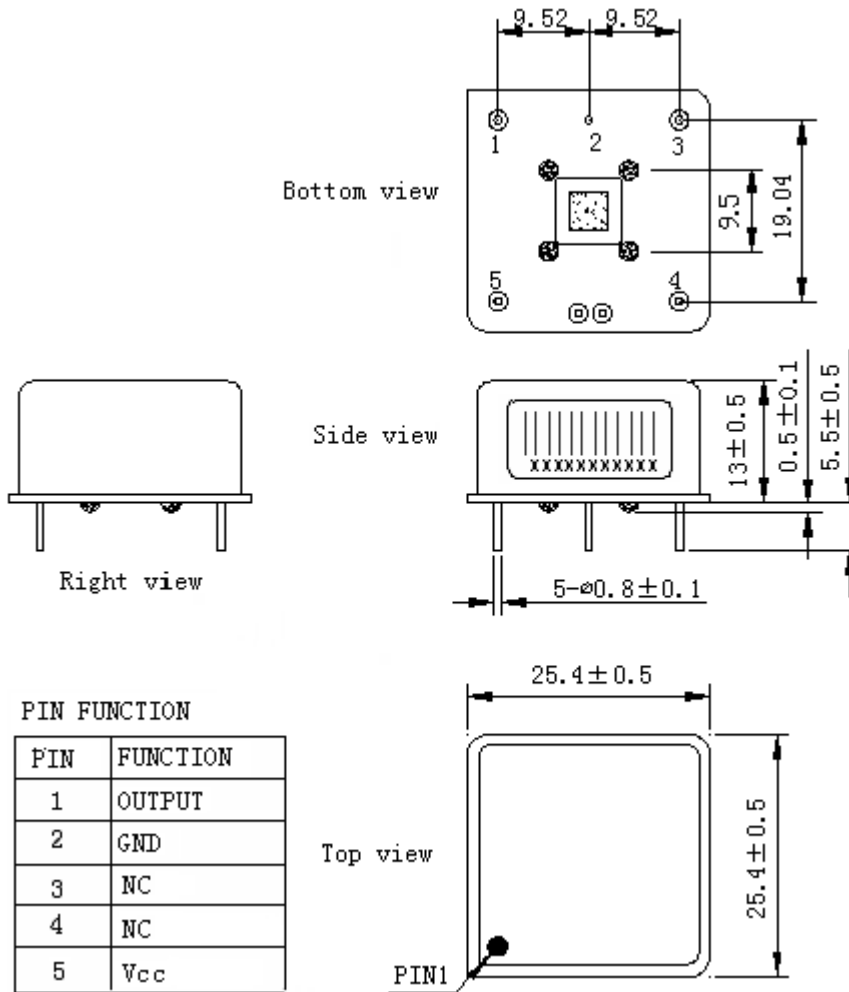
MODEL: O22L-B319-12.80MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	12.80			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	40	50	60	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Load	15			pF	
	Spurious Suppression			-80	dBc	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.01		+0.01	$\times 10^{-6}$	T_A varied from 0°C to 70°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, O_{load}=15pF$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V$, and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-5		+5	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^\circ C, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load}=15pF$.
	Frequency Tolerance vs. Load	-5		+5	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V$, and $O_{Load}=15pF$.
	Short-Term Stability: Allan Variance			0.01	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 1s, using PN9000 equipment.
	Aging Tolerance Per Day	-1		+1	$\times 10^{-9}$	V_{cc}, T_A constant measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V$, and after 30 days of operation.
	Aging Tolerance 1 Year	-0.15		+0.15	$\times 10^{-6}$	
	Aging Tolerance 20 Years	-2		+2	$\times 10^{-6}$	



Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			450	mA	@25°C
	Warm-Up Time			5	minute	@25°C within $\pm 1.0 \times 10^{-7}$ of final frequency with reference after 24 hours on
	Warm up current			1000	mA	
Phase Noise	Phase Noise		-82	-72	dBc/Hz	1Hz
			-112	-102		10Hz
			-135	-125		100Hz
			-145	-140		1KHz
			-150	-145		10KHz
			-150	-145		100KHz
			-150	-145		1MHz
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; ANSI/ESDA/JEDEC JS-001-2010.				
	Moisture Sensitivity Level	Not humidity sensitive.				
	Vibration	Test Condition: 0.75mm ;acceleration:10g;10Hz~500Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X , Y , Z), IEC 68-2-06 Test Fc.				
Shock	50g; 11ms; half sine wave (3 times for each 3 directions X, Y, Z), IEC 68-2-27 Test Ea/Severity 50A.					



2. Mechanical Structure (mm)



PIN FUNCTION

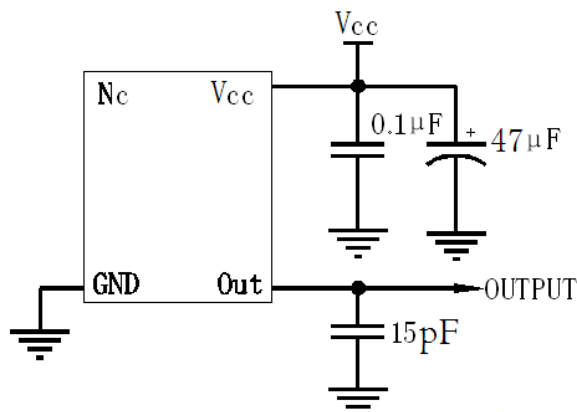
PIN	FUNCTION
1	OUTPUT
2	GND
3	NC
4	NC
5	Vcc

Note1: Tolerance ±0.2mm without mark

Note2: Referential Weight 14.0g

Note3: NC is not connect

3. Test Circuit





4. Reflow Soldering Curve (RoHS)



5. Package (mm)

