

Travelling Merchant: _____

DATASHEET

Standard: **M936-C319-20.00MHz**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2016.10.13			

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1. Electrical Parameters

MODEL: M936-C319-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.3	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.8			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	@25°C
	Load	15			pF	
	Start-up Time			10	ms	@3.15V
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	T_A varied from 0°C to 70°C, measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{load}=15\text{ pF}$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-0.8		+0.8	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.3		+0.3	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load}=15\text{ pF}$.
	Frequency Tolerance vs. Load	-0.3		+0.3	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$.
	24 Hours Drift	-0.04		+0.04	$\times 10^{-6}$	Over 24 hours.
	24 Hours Stability	-0.37		+0.37	$\times 10^{-6}$	Over 24 hours, 0°C to 70°C and $V_{cc} \pm 1\%$ (holdover mode).
	Aging Tolerance 15 Years	-3		+3	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$, and after 1h of operation.
	Overall Stability	-4.6		+4.6	$\times 10^{-6}$	Inclusive of the following: - operating temperature 0°C to 70°C - 3.3V $\pm 5\%$ - 15pF load $\pm 5\%$ - 2 times reflow soldering - 15 years aging reference to nominal frequency



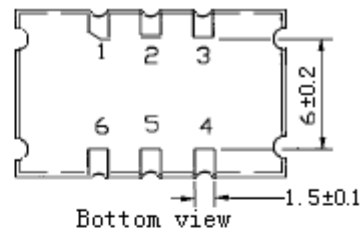
Power Supply	Current Consumption			10	mA	@25°C, V _{cc} =3.3V, O _{Load} =15pF.
	Supply Voltage	3.13	3.3	3.47	V	
Phase Noise	Phase Noise		-90	-85	dBc/Hz	10Hz
			-115	-110		100Hz
			-135	-130		1KHz
			-145	-140		10KHz
			-148	-143		100KHz
			-150	-145		1MHz
Environmental Conditions	Operable Temperature	0		+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				



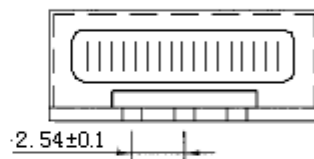
2. Mechanical Structure(mm)



Right view



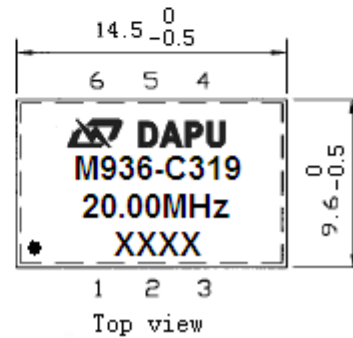
Bottom view



Side view

PIN FUNCTION

PIN	NOTATION	FUNCTION
1	NC	Not Connect
2,5	NC	Not Connect
3	GND	GND
4	OUTPUT	RF Output
6	VCC	Supply Voltage



Top view

Note1: Tolerance ± 0.2 mm without mark

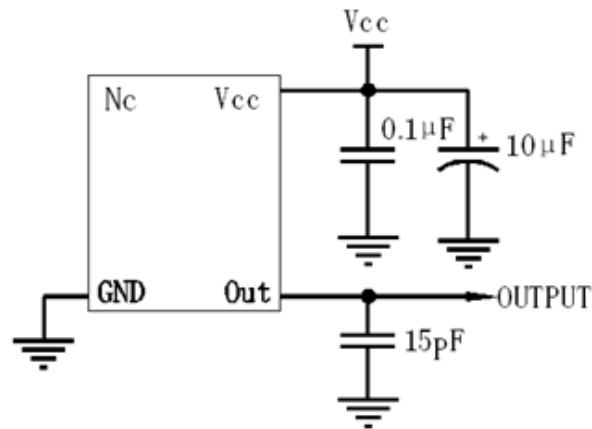
Note2: The first two xx representative: week
After two xx representative: year

Note3: Referential weight 1.5g

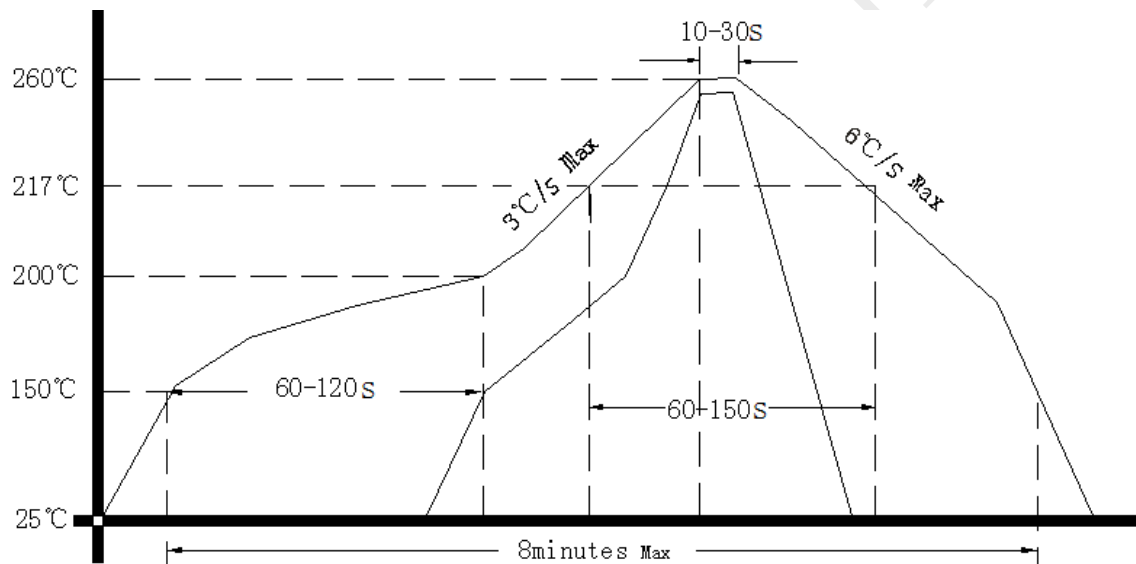
Note4: NC is not connect



3. Test circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

