Travelling Merchant:_____

DATASHEET

Standard: **O11F-R319-20.00MHz-A**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Amway.wei	Tony · Wang	Jason zhao	
Date: 2023.07.17			

Guangdong Dapu Telecom Technology Co.,Ltd

Building 5, No.24, Industrial East Road, Songshanhu Park, Dongguan, Guangdong, P.R. China

TEL：0086-0769-88010888 FAX：0086-0769-81800098

Building 5, No.24, Industrial East Road,
Songshanhu Park, Dongguan,
Guangdong, P.R. China
TEL:0086-0769-88010888
FAX:0086-0769-81800098

Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2023.07.17

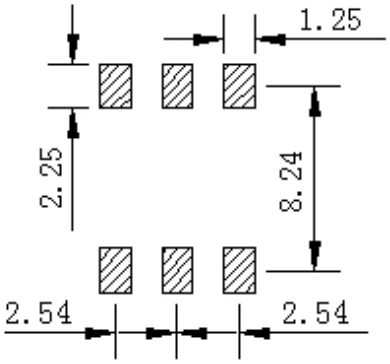
Building 5, No.24, Industrial East Road,
Songshanhu Park, Dongguan,
Guangdong, P.R. China
TEL:0086-0769-88010888
FAX:0086-0769-81800098

1. Electrical Parameters

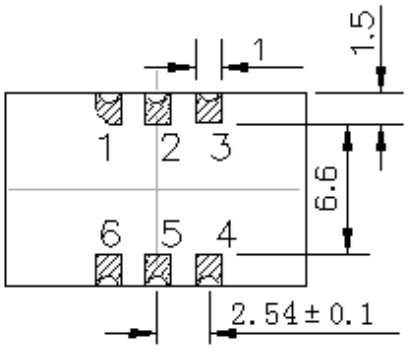
MODEL： O11F-R319-20.00MHz-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		20.00		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.33	V	V_{cc}=3.3V, O_{load}=15pF
	Output High Voltage	2.97			V	V_{cc}=3.3V, O_{load}=15pF
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)		1	2	ns	
	Load		15		pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range			±5	$\times 10^{-9}$	T_A varied from -40℃ to 85℃, 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℃per minute.
	Frequency Calibration			±0.2	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃±2℃, V_{cc}=3.3V, at time of shipment.
	Reflow Shift			±0.2	$\times 10^{-6}$	After 1 hour recovery at 25℃
	Frequency Tolerance vs. Supply Voltage	-5		+5	$\times 10^{-9}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.234V to 3.366V, and O_{Load}=15pF.
	Frequency Tolerance vs. Load	-5		+5	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, and O_{Load}=15pF.
	Frequency Slope			±0.5	$\times 10^{-9}$	Temperature ramp≤1℃/minute,△F/△T in still air.
	Aging Tolerance Per Day	-1		+1	$\times 10^{-9}$	V_{cc},T_A constant measurement referenced to frequency observed with T_A=25℃,V_{cc}=3.3V, and after 60 days of operation.
	Aging Tolerance 1 Year	-0.3		+0.3	$\times 10^{-6}$	
	Aging Tolerance 20 Years	-2.5		+2.5	$\times 10^{-6}$	
	All causes stability			±4.6	$\times 10^{-6}$	Including calibration, temperature, supply voltage&load changed and 20years life, referenced to Fn.

	Short-Term Stability: Allan Variance		30		$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 0.1s.
			20		$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1s.
			15		$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 10s.
			15		$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 100s.
			70		$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1000s.
Power Supply	Supply Voltage	3.135	3.3	3.465	V	
	Steady Consumption		120	140	mA	@25℃
	Warm up current		360	500	mA	
	Warm-Up Time		15	60	s	@25℃within $\pm 0.02 \times 10^{-6}$ of final frequency with reference after 1hour on.
Phase Noise	Phase Noise		-73		dBc/Hz	1Hz
			-105			10Hz
			-134			100Hz
			-154			1KHz
			-158			10KHz
			-158			100KHz
			-158			1MHz
RMS Jitter	RMS Jitter		0.3		ps	12kHz to 5MHz
Environmental Conditions	Operable Temperature	-40		+85	℃	
	Storage Temperature	-55		+125	℃	
	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～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.				
Full Package Storage	Relative humidity (%)	20%～70%				
	Temperature (℃)	-10~35℃				

2. Mechanical Structure (mm)

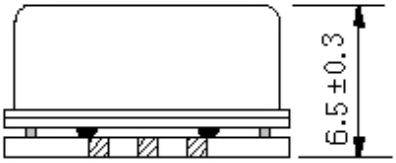


Solder Pad layout



Bottom view

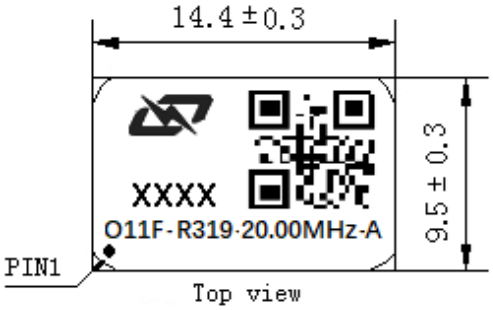

Right view



Side view

PIN FUNCTION

PIN	FUNCTION
1	NC
2,5	NC
3	GND
4	OUTPUT
6	VCC



Top view

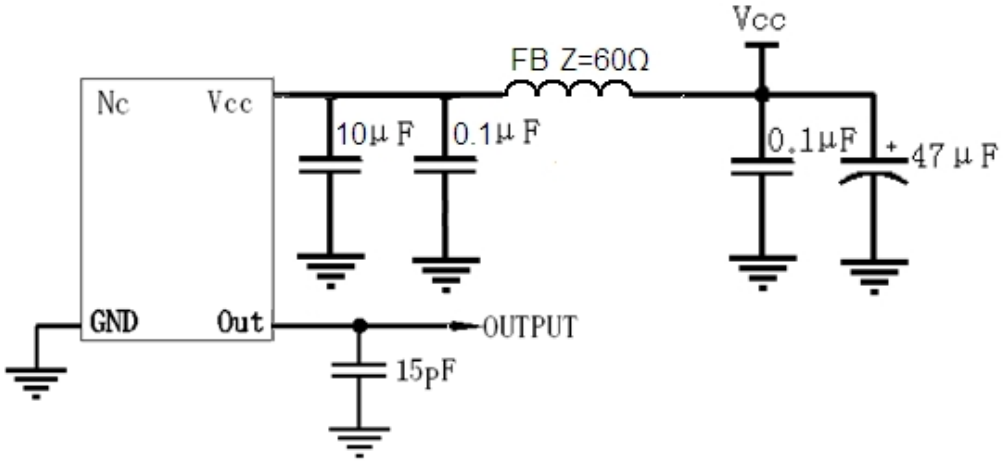
Note1: Tolerance ± 0.2mm without mark

Note2: Referential weight 2.2g

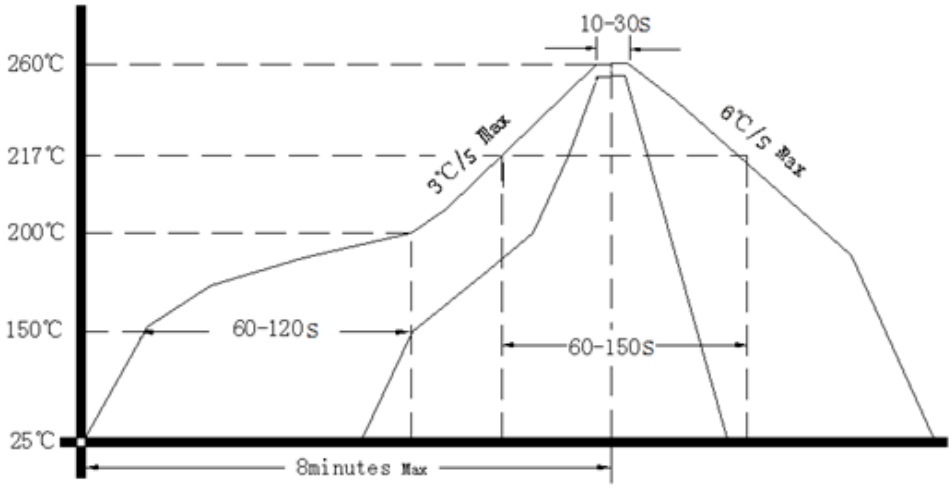
Note3: NC is not connect

Note4: The first two xx representative: week
After two xx representative: year

3. Test Circuit



4. Reflow Soldering Curve (RoHS)



Note: Passing through reflow upside down is not supported

5. Package: Tape & Reel (mm)