

Travelling Merchant: _____

DATASHEET

Standard: 011H-C319-20.00MHz

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.10.21			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2018.04.27
1.1	The "Output Waveform" "Rise / Fall Time" "Short-Term Stability Allan Variance" "Aging Tolerance1 Year" "Environmental Conditions" changed	<i>Amway</i>	2020.08.03
1.2	The "Reflow Soldering Curve (RoHS)" "Package: Tape & Reel" changed	<i>Amway</i>	2024.05.15
1.3	The "Jitter" changed	<i>Amway</i>	2024.10.21



1. Electrical Parameters

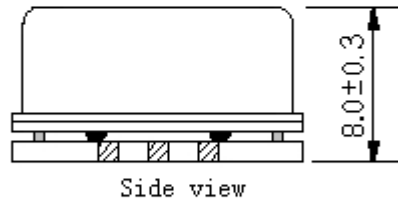
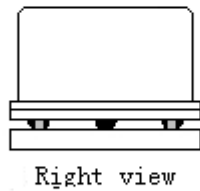
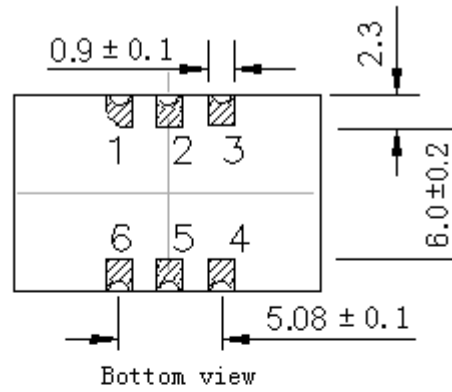
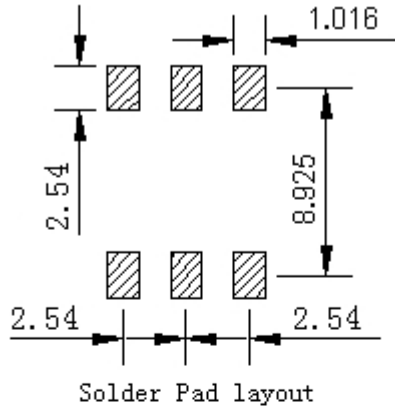
MODEL: O11H-C319-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	CMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Start-up Time			100	ms	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-5		+5	$\times 10^{-9}$	T_A varied from -40°C to 85°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.
	Frequency Accuracy	-0.2		+0.2	$\times 10^{-6}$	Within 30 days after shipment and 15 minutes warm up time (before reflow), Measurement referenced to nominal frequency.
		-0.4		+0.4	$\times 10^{-6}$	Within 30 days after shipment and 15 minutes warm up time (after reflow), Measurement referenced to nominal frequency.
	Frequency Tolerance vs. Supply Voltage	-2		+2	$\times 10^{-9}$	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	-2		+2	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V$, and $O_{Load}=15pF$.
	Retrace	-0.05		+0.05	$\times 10^{-6}$	After 24 hour off at 25°C, 60min power on
	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.
	Aging Tolerance Per Day	-1.0		+1.0	$\times 10^{-9}$	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	-0.05		+0.05	$\times 10^{-6}$		



Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			300	mA	@25°C
	Warm up Current			700	mA	
	Warm up Time			3	min	@25°C within $\pm 0.1 \times 10^{-6}$ of final frequency with reference after 1 hour on.
Phase Noise	Phase Noise			-75	dBc/Hz	1Hz
				-105		10Hz
				-130		100Hz
				-145		1KHz
				-150		10KHz
				-155		100KHz
				-155		1MHz
Jitter			0.8	ps	RMS Jitter (12KHz-5MHz)	
Environmental Conditions	Operable Temperature	-40		+125	°C	
	Storage Temperature	-55		+125	°C	
	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 3.				
	Drop Test	Place it in the air 10cm above the table top, and fall face down on the 3cm wooden table top for 3 times				
	Mechanical impact test	Placed on the mechanical shock table, and the half sine wave shock is applied from each direction of X, Y and Z with a peak value of 100g, and the test interval is 6ms				
	Random vibration test	Placed on a random vibration table, and the vibration frequency is set from 1Hz~4Hz~100Hz~200Hz, the acceleration is from 0.0001g ² /Hz~0.01g ² /Hz~0.01g ² /Hz~0.001g ² /Hz, and the root mean square acceleration Grms is 1.15g. It vibrates along the X, Y and Z axes of the device for 30min in each direction				
	Collision test	Placed on the impact test bench, and the impact time is (4000 ± 10) times along each direction of three mutually perpendicular axes at the peak addition of 400m / S ² , and the pulse duration is 6ms.				
High temperature working test	(1) Placed in a high-temperature box, and the specified load and rated power supply are applied. The output of crystal oscillator is connected to the monitoring frequency of frequency counter, and the gate time of frequency counter is set as 1s;(2)The temperature of the oven is set at 125°C, and the measured crystal oscillator works continuously for 2000 hours at this temperature;					
Full Package Storage	Relative humidity (%)	20% ~ 70%				
	Temperature (°C)	-10~35°C				

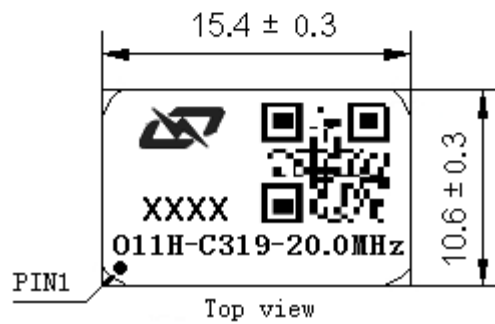


2. Mechanical Structure (mm)



PIN FUNCTION

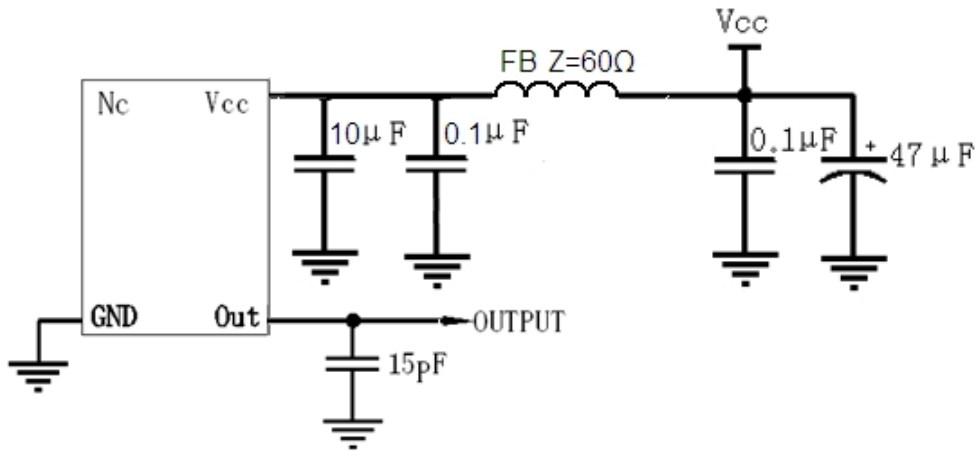
PIN	NOTATION	FUNCTION
1	NC	Not Connect
2,5	NC	Not Connect
3	GND	GND
4	OUTPUT	RF Output
6	VCC	Supply Voltage



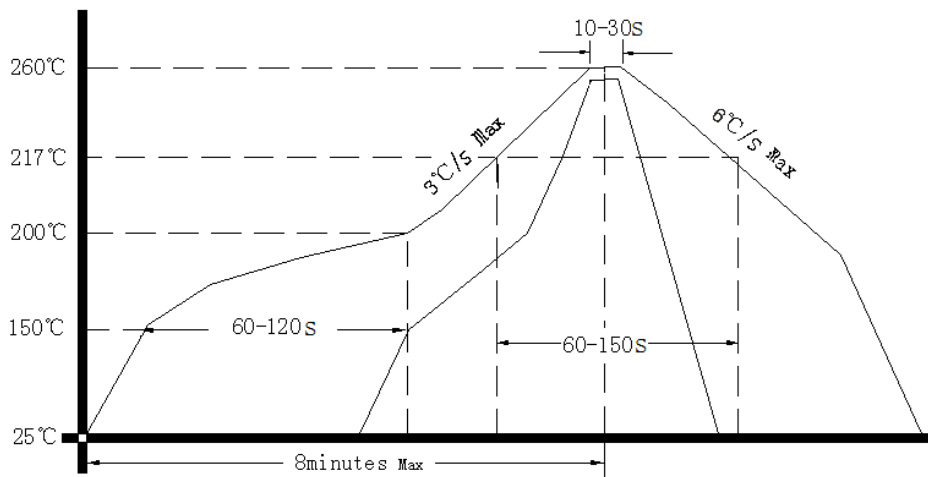
- Note1:** Tolerance $\pm 0.2\text{mm}$ without mark
- Note2:** The first two xx representative: week
After two xx representative: year
- Note3:** Referential weight 2.6g
- Note4:** NC is not connect



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



Passing through reflow upside down is not supported

5. Package: Tape & Reel (mm)

