Customer Code : A018

DATASHEET

DAPU P/N : **O11H-1804-19.20MHz**

Customer P/N:

DAPU			Customer Approval
Drew	Audited	Approved	
Amway.wei	Tony · Wang	James.Liu	
Date: 2020.03.20			Stamp, please! Thanks!

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2016.06.22
1.1	“Mechanical Structure” changed	Amway	2016.07.20
1.2	“Start-up Time”, “Test Circuit”and“Mechanical Structure” changed	Amway	2016.09.20
1.3	Add “Warm Up”, The “Load” “Frequency Tolerance vs. Operating Temperature Range” “Frequency Accuracy” “Warm up current” “Phase Noise” “Mechanical Structure” changed, Remove “Initial Frequency Tolerance”	Amway	2020.03.20

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1. Electrical Parameters

MODEL： O11H-1804-19.20MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		19.20		MHz	
	Output Waveform		LVCMOS			
	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%)			6	ns	
	Load	13.5		16.5	pF	
	Start-up Time			1	S	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-3		+3	$\times 10^{-9}$	T_A varied from-10℃ to 70℃, 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.
		-5		+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.
	Slope	-3		+3	$\times 10^{-9}$/℃	-40℃ to85℃, temperature ramp 1 ℃/ min
	Frequency Accuracy	-0.2		+0.2	$\times 10^{-6}$	Within 90 days after shipment and 15 minutes warm up time (before reflow), Measurement referenced to nominal frequency.
		-0.4		+0.4	$\times 10^{-6}$	Within 90 days after shipment and 15 minutes warm up time(after reflow), Measurement referenced to nominal frequency
	Frequency Tolerance vs. Supply Voltage	-1		+1	$\times 10^{-9}$	T_A =25 ℃ , V_{cc} varied from 3.135 to 3.465 V, and O_{Load} = 15 pF. Measurement referenced to frequency observed with T_A = 25 ℃, V_{cc} = 3.3 V.
	Frequency Tolerance vs. Load	-1		+1	$\times 10^{-9}$	10% Load Change. Measurement referenced to frequency observed with T_A = 25 ℃, V_{cc} = 3.3V.

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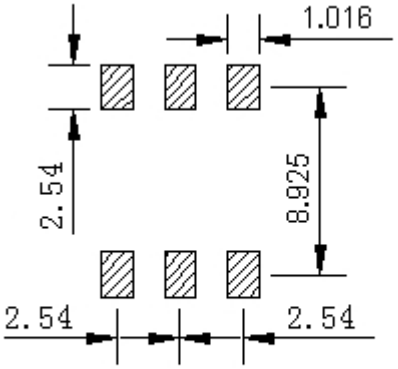
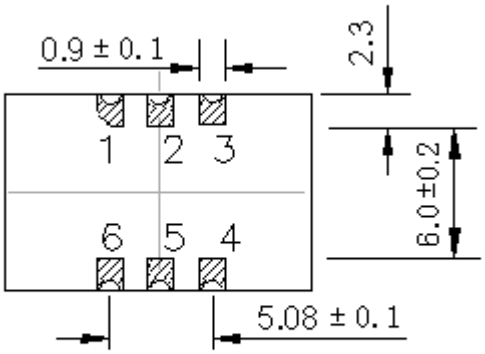
	Short-Term Stability: Allan Variance			0.05	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1s.
				0.2	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 100s.
	Aging Tolerance Per Day	-0.8		+0.8	$\times 10^{-9}$	Vcc, TA constant. Measurement referenced to frequency observed with TA= 25℃, Vcc= 3.3 V. and after 30 days of operation
	Aging Tolerance 1 Year	-0.1		+0.1	$\times 10^{-6}$	
	Aging Tolerance 10 Years	-0.6		+0.6	$\times 10^{-6}$	
Power Supply	Supply Voltage	3.135	3.3	3.465	V	
	Steady Consumption			300	mA	@25℃
	Warm up current			750	mA	
	Warm up Time			5	min	
	Warm Up	-0.1		+0.1	$\times 10^{-6}$	After warm up 1hour. Measurement referenced to frequency observed with TA = 25℃,V_{cc}=3.3V. and after 24 hour of operation.
Jitter	Jitter			0.45	ps-rms	RMS(12KHz to 5MHz)
Phase Noise	Phase Noise		-65		dBc/Hz	1Hz
			-95			10Hz
			-120			100Hz
			-135			1KHz
			-145			10KHz
			-152			100KHz
			-152			1MHz
			-152			5MHz
Environmental Conditions	Operating Temperature	-40		+85	℃	
	Storage Temperature	-55		+105	℃	
	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℃

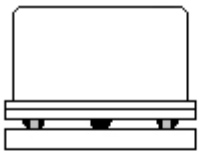
2. Mechanical Structure (mm)

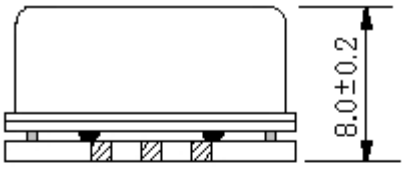


Solder Pad layout



Bottom view

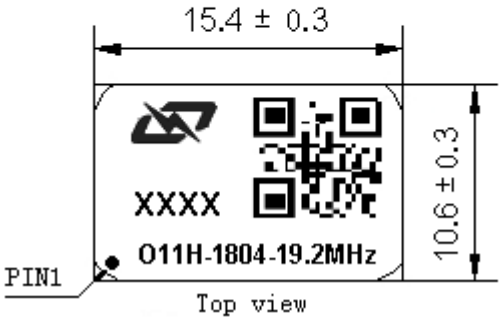

Right view



Side view

PIN FUNCTION

PIN	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 ±0.20mm without mark

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

Note3: Referential weight 2.6g

Note4: NC is not connect

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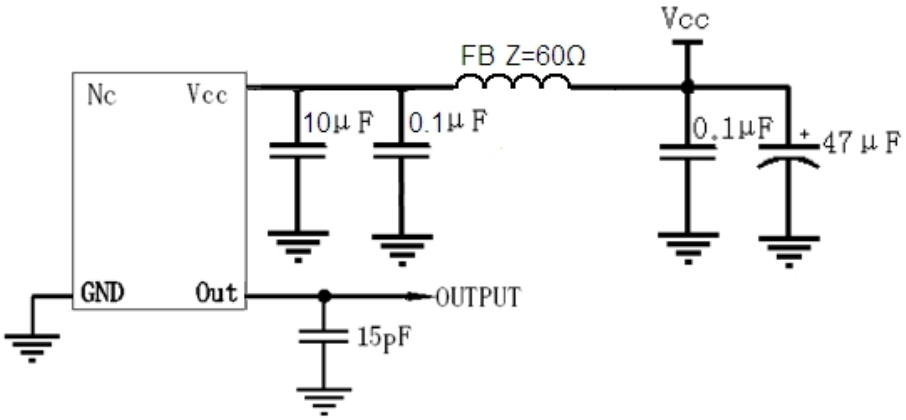
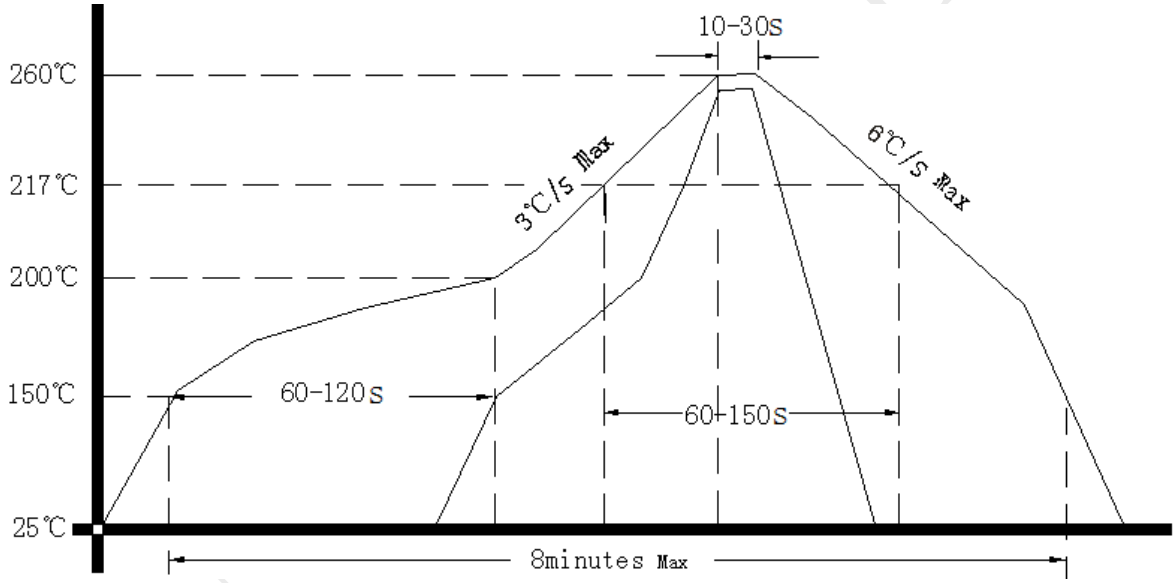
3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)