

Customer Code : _____

DATASHEET

DAPU P/N: **O11A-L311-40.00MHz**

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2020.11.11			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2019.04.02
1.1	The “Aging Tolerance Per Day” “Warm up current” “Moisture Sensitivity Level” “Mechanical Structure” changed	Amway	2019.06.13
1.2	The “Phase Noise” changed	Amway	2020.11.11



1. Electrical Parameters

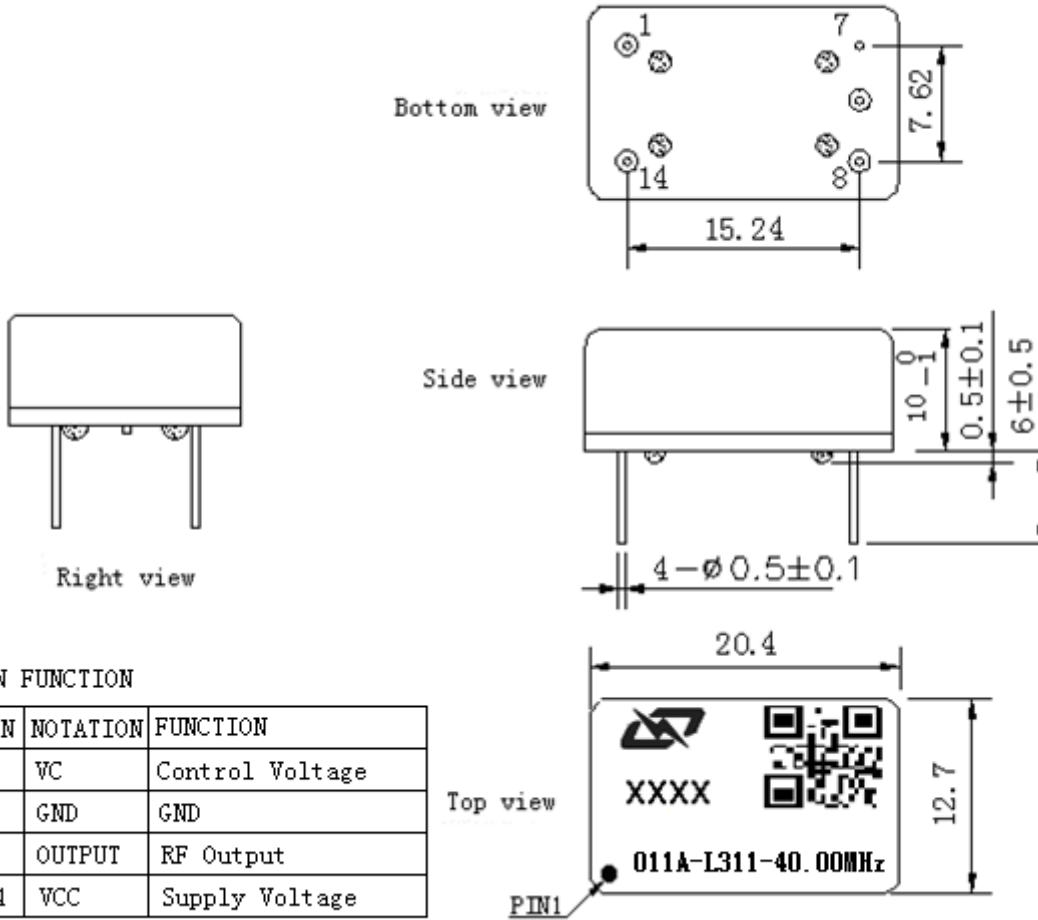
MODEL: O11A-L311-40.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	40.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.7			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-5		+5	$\times 10^{-9}$	T_A varied from $-40^{\circ}C$ to $85^{\circ}C$, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.65V, O_{load}=15pF$, temperature variable speed less than $2^{\circ}C$ per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V$ and after 15 minutes of operation, within 30 days after ex-works.
	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 $T_A=25^{\circ}C, V_{cc}=3.3, V_c=1.65V$ 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 $25^{\circ}C$; 1s, using PN9000 equipment.
	Aging Tolerance Per Day	-1		+1	$\times 10^{-9}$	V_{cc}, V_c, T_A constant measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=3.3V, V_c=1.65V$ and after 30 days of operation.
	Aging Tolerance 1 Year	-0.1		+0.1	$\times 10^{-6}$	
Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			300	mA	@ $25^{\circ}C$
	Warm up current			850	mA	



Voltage Control Characteristics	Frequency Tuning Range			-0.5	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.65V$
		-0.1		+0.1	$\times 10^{-6}$	$V_c=1.65V$. measurement referenced to exactly 40.00MHz
		0.5			$\times 10^{-6}$	$V_c=3.3V$. measurement referenced to $V_c=1.65V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K Ω
Phase Noise	Phase Noise		-110	-100	dBc/Hz	10Hz
			-135	-125		100Hz
			-150	-145		1KHz
			-155	-150		10KHz
			-155	-150		100KHz
Environmental Conditions	Operable Temperature	-40		+85	$^{\circ}C$	
	Storage Temperature	-55		+105	$^{\circ}C$	
	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.					
Full Package Storage	Relative humidity (%)	20%~70%				
	Temperature ($^{\circ}C$)	-10~35 $^{\circ}C$				



2. Mechanical Structure (mm)



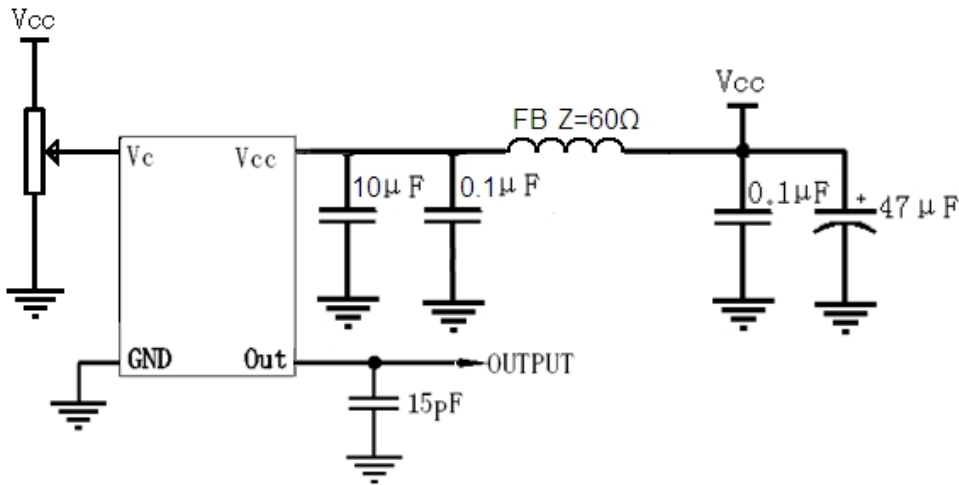
PIN FUNCTION

PIN	NOTATION	FUNCTION
1	VC	Control Voltage
7	GND	GND
8	OUTPUT	RF Output
14	VCC	Supply Voltage

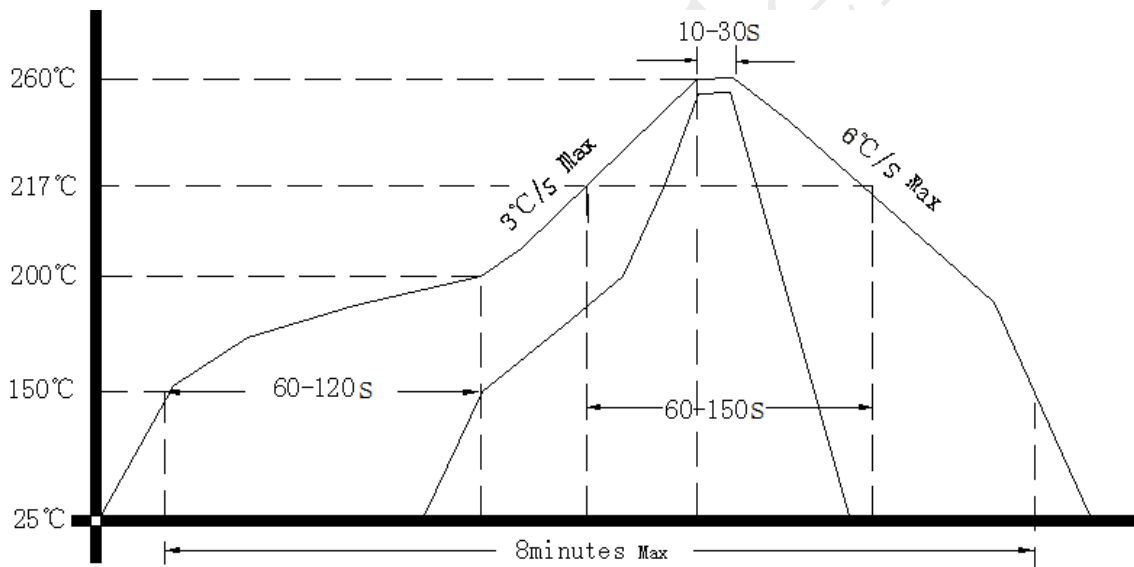
- Note1:** Tolerance ±0.2mm without mark
- Note2:** The first two xx representative: week
After two xx representative: year
- Note3:** Referential weight 4.2 g



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

