

Customer Code: _____

DATASHEET

DAPU P/N : M11A-D311-120.00MHz

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2020.01.03			

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1. Electrical Parameters

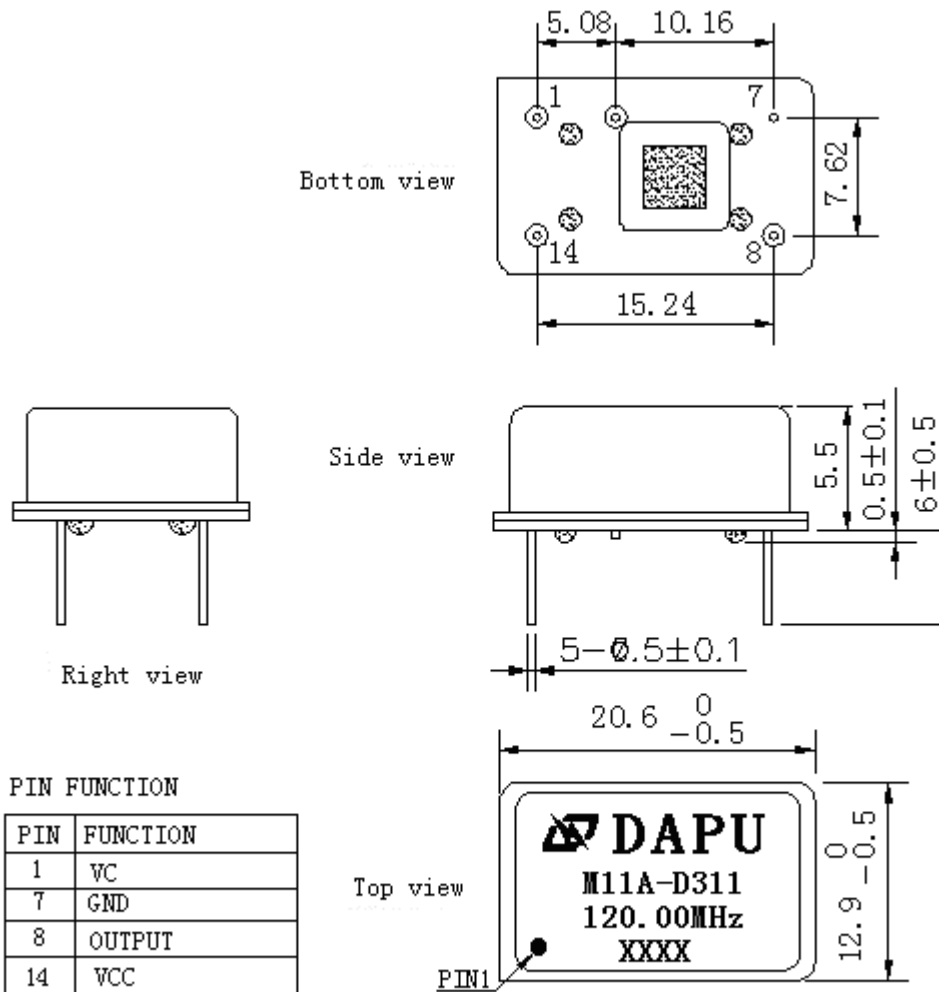
MODEL: M11A-D311-120.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	120.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-1.0		+1.0	$\times 10^{-6}$	T_A varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref} = (f_{max}+f_{min})/2$, $V_{cc}=3.3V, V_c=1.65V, O_{load}=15\text{ pF}$, temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-1.0		+1.0	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V$, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.2		+0.2	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, $V_c=1.65V$, and $O_{Load}=15\text{ pF}$.
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V, O_{Load}=15\text{ pF}$.
	Short Term Stability			0.5	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 1s.
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	V_{cc}, T_A constant measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.65V$, and after 30 days of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
Power Supply	Current Consumption			40	mA	@25°C, $V_{cc}=3.3V, V_c=1.65V, O_{Load}=15\text{ pF}$.
	Supply Voltage	3.13	3.3	3.47	V	



Voltage Control Characteristics	Frequency Tuning Range			-5	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.65V$
		-1.0		+1.0	$\times 10^{-6}$	$V_c=1.65V$. measurement referenced to exactly 120.00MHz
		+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		-137		dBc/Hz	1KHz
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	Level 2.				
Random Vibration	<p>Test Condition: (3 min for each 3 directions X , Y , Z)</p>					
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 ($^{\circ}C$)	-10~35 $^{\circ}C$				



2. Mechanical Structure(mm)



PIN FUNCTION

PIN	FUNCTION
1	VC
7	GND
8	OUTPUT
14	VCC

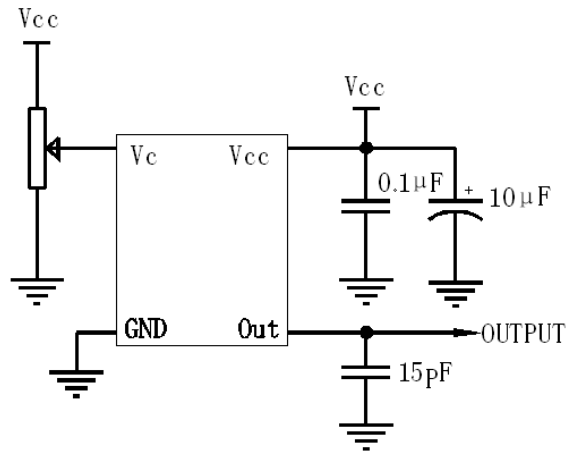
Note1: Tolerance ±0.2mm without mark

Note2: Referential weight 4.2g

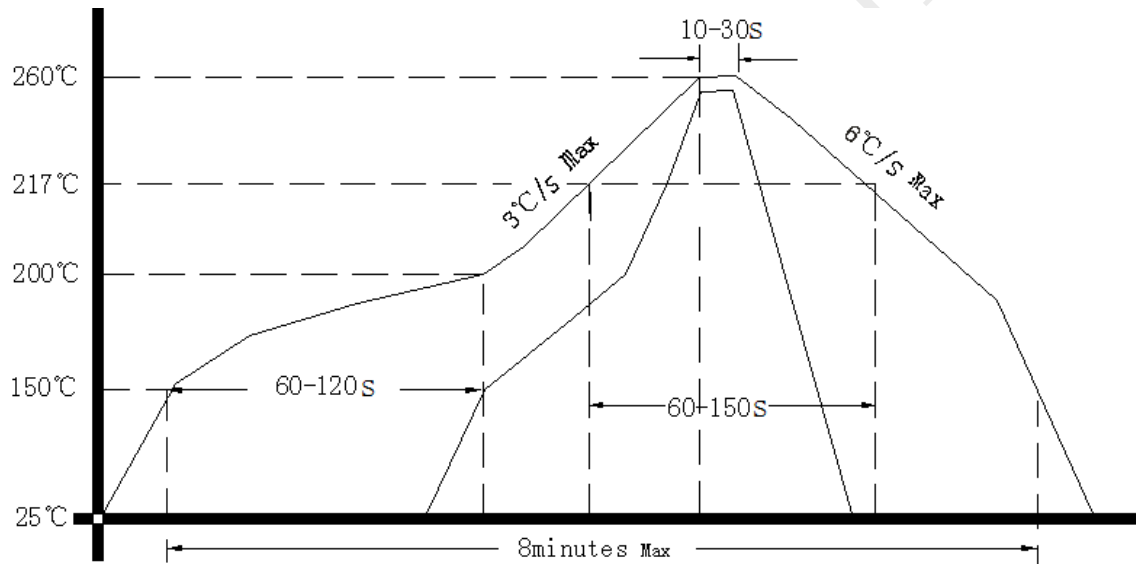
Note3: The first two xx representative: week
After two xx representative: year



3. Test circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

