Travelling Merchant: A021

DATASHEET

Standard: **O11A-2102-12.80MHz**

P/N:

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Amway.wei	Tony · Wang	James.Liu	
Date: 2014.04.25			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2014.04.25

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1. Electrical Parameters

MODEL： O11A-2102-12.80MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		12.80		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%)			4	ns	
	Load		15		pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.025		+0.025	$\times 10^{-6}$	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.
	Initial Frequency Tolerance	-0.5		+0.5	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, at time of shipment.
	Frequency Tolerance vs. Supply Voltage	-0.01		+0.01	$\times 10^{-6}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.13V to 3.47V, and O_{Load}=15pF.
	Frequency Tolerance vs. Load	-0.01		+0.01	$\times 10^{-6}$	±5pF load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, and O_{Load}=15pF.
	Short-Term Stability: Allan Variance		0.07		$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 0.1s, using PN9000 equipment.
			0.07		$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1s, using PN9000 equipment.
			0.07		$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 10s, using PN9000 equipment.
			0.08		$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 100s, using PN9000 equipment.
			0.08		$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1000s, using PN9000 equipment.

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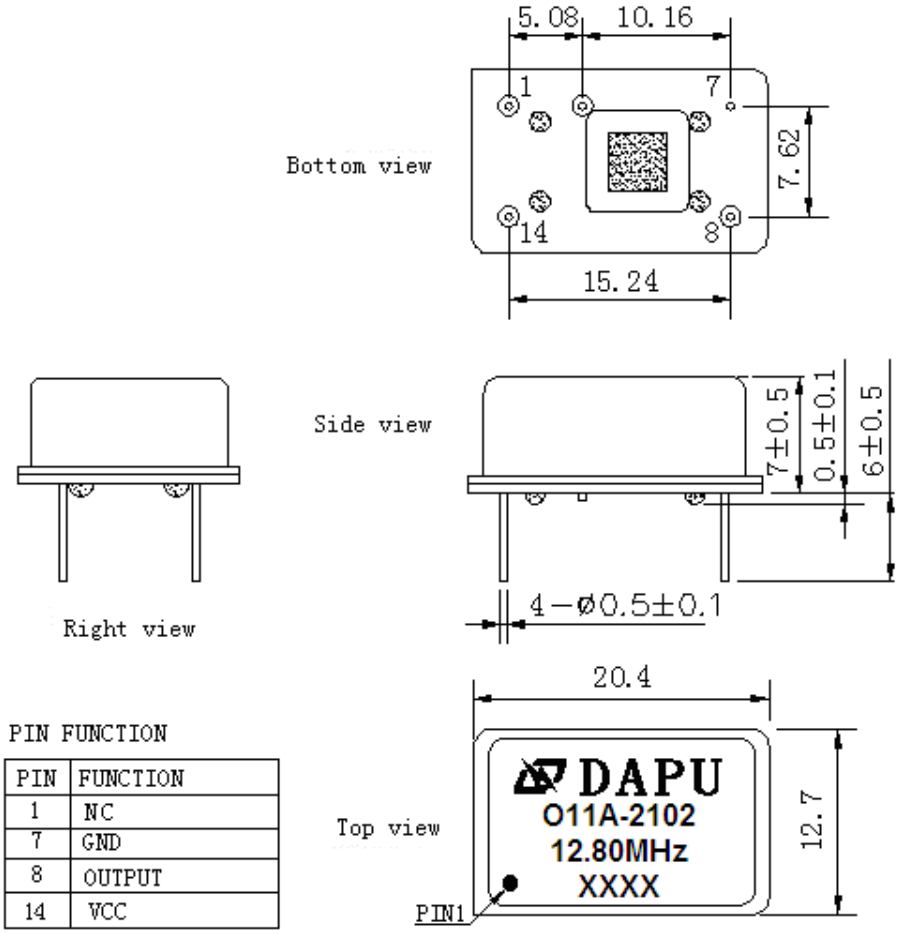
	Frequency Slope in Still air	-2		+2	10^{-9}/℃	Temperature ramp 1℃per minute max.
	Aging Tolerance Per Day	-2		+2	$\times 10^{-9}$	V_{cc},T_A constant measurement referenced to frequency observed with T_A=25℃,V_{cc}=3.3V, and after 30 days of operation.
	Aging Tolerance 1 Year	-0.5		+0.5	$\times 10^{-6}$	
	Aging Tolerance 10 Years	-3		+3	$\times 10^{-6}$	
	Holdover 24hours Drift	-4		+4	$\times 10^{-9}$	V_{cc}=3.3V, temperature change range ≤1℃, after 30 days of operation.
Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			180	mA	@25℃
	Warm up current			500	mA	
	Warm-Up Time		3		min	@25℃within ±0.02×10^{-6} of final frequency with reference after 1 hour on.
Phase Noise	Phase Noise @25℃		-70	-60	dBc/Hz	1Hz
			-100	-90		10Hz
			-130	-120		100Hz
			-145	-140		1KHz
			-150	-145		10KHz
			-155	-150		100KHz
			-155	-150		1MHz
Environmental Conditions	Operable 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; 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.				

2. Mechanical Structure (mm)



PIN FUNCTION

PIN	FUNCTION
1	NC
7	GND
8	OUTPUT
14	VCC

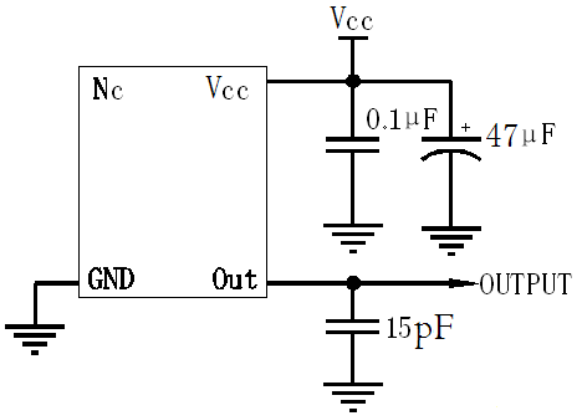
Note1: Tolerance ±0.2mm without mark

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

Note3: Referential Weight 4.2g

Note4: NC is not connect

3. Test Circuit



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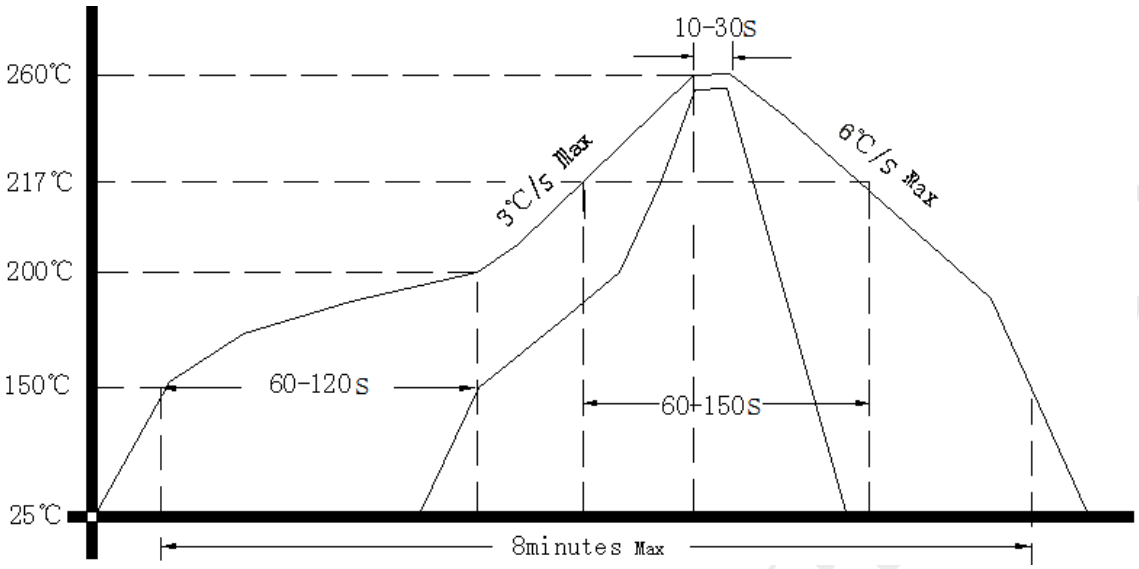
4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)