Travelling Merchant: A021

DATASHEET

Standard: **O11F-2101-19.20MHz**

P/N:

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Amway.wei	Tony · Wang	James.Liu	
Date: 2013.11.11			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2013.11.11

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1. Electrical Parameters

MODEL： O11F-2101-19.20MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		19.20		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	-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, V_c=1.65V, 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,and after 15 minutes of operation, within 30 days after ex-works
	Frequency Slope in Still air	-2		+2	10^{-9}/℃	Temperature ramp 1℃per minute max
	Reflow shift	-1		+1	$\times 10^{-6}$	After 1 hour recovery at 25℃
	Frequency Tolerance vs. Supply Voltage		±0.01		$\times 10^{-6}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.13V to 3.47V, V_c =1.65V and O_{Load}=15pF
	Frequency Tolerance vs. Load		±0.01		$\times 10^{-6}$	±5pF load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.65V, 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

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			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
	Aging Tolerance Per Day	-5		+5	$\times 10^{-9}$	V_{cc}, V_c, T_A constant measurement referenced to frequency observed with T_A=25℃, V_{cc}= 3.3V, V_c=1.65V, and after 30 days of operation
	Aging Tolerance 1 Year	-0.5		+0.5	$\times 10^{-6}$	
	Aging Tolerance 10 Year	-3		+3	$\times 10^{-6}$	
	Holdover 24hours Drift		±4		$\times 10^{-9}$	V_{cc}=3.3V, temperature change range ≤2℃, after 30 days continuous operation
Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			250	mA	@25℃
	Warm up current			560	mA	
	Warm-Up Time			15	min	@25℃within $\pm 0.02 \times 10^{-6}$ of final frequency with reference after 1 hour on in Still air
Voltage Control Characteristics	Frequency Tuning Range	-10		-5	$\times 10^{-6}$	V_c=0V. measurement referenced to V_c=1.65V
		-0.5		+0.5	$\times 10^{-6}$	V_c=1.65V. measurement referenced to exactly 19.20MHz
		+5		+10	$\times 10^{-6}$	V_c=3.3V. measurement referenced to V_c=1.65V
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	80			KΩ	
Phase Noise	Phase Noise @25℃ in Still air		-100	-90	dBc/Hz	10Hz
			-130	-120		100Hz
			-145	-140		1KHz
			-150	-145		10KHz
			-150	-145		100KHz
			-155	-150		1MHz

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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	IPC/JEDEC J-STD-020, Level 2				
	Temperature cycling	IEC 60068-2-14 test Na, -40 ℃ to +125 ℃, 400 cycles				
	Solderability	JESD 22-B102D, Method 2				
	Humidity	EIA/JEDEC22-A101, 85 ℃/85%R.H., 1000 hours				
	Vibration	IEC 60068-2-6, test Fc: 20g, 60 to 2000Hz 12 hours total				
	Shock	IEC 60068-2-27, test Ea; 1500g, 0.5ms, 18 shocks total				
	RoHS	Parts are fully compliant with the European Union directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment. Note parts are suitable for assembly using both Lead-free solders and Tin/Lead solders				

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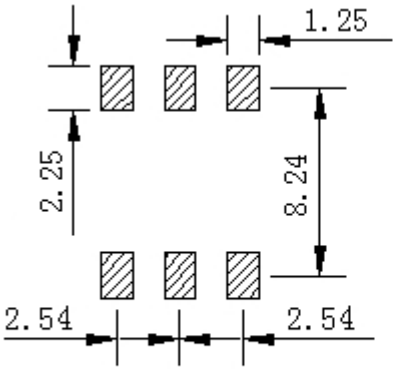
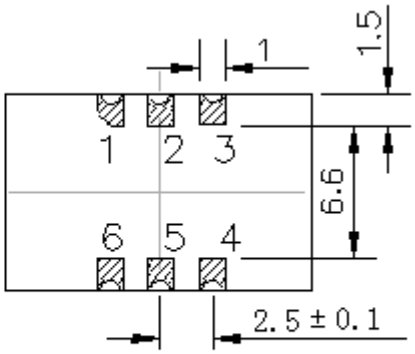
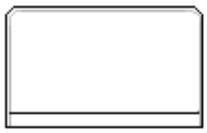
2. Mechanical Structure (mm)



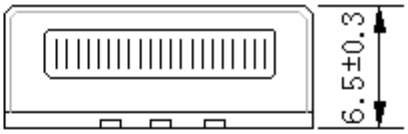
Solder Pad layout



Bottom view



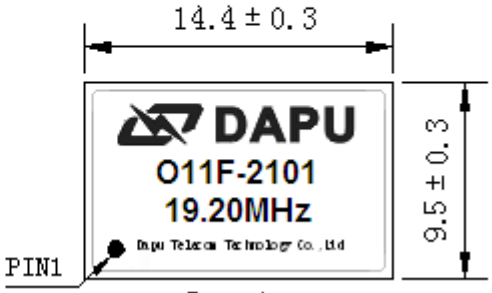
Right view



Side view

PIN FUNCTION

PIN	FUNCTION
1	VC
2,5	NC
3	GND
4	OUTPUT
6	VCC



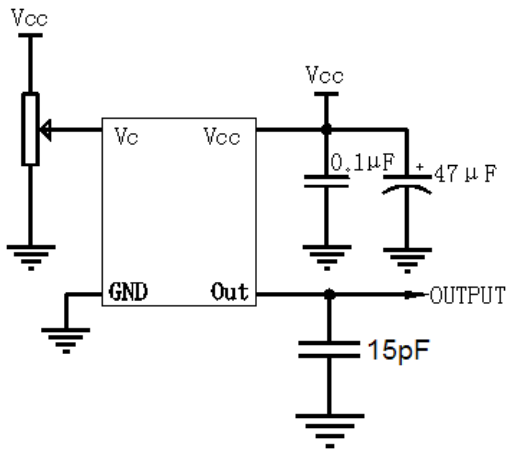
Top view

Note1: Tolerance ±0.2mm without mark

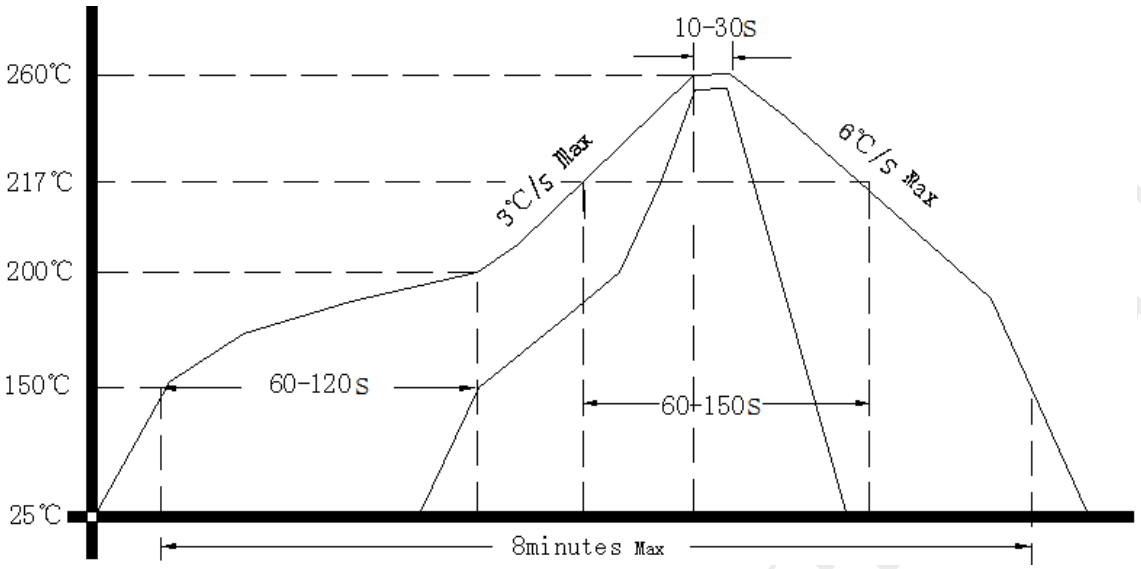
Note2: Referential Weight 1.5g

Note3: NC is not connect

3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)