Travelling Merchant: A021

DATASHEET

Standard: **O22S-2101-12.80MHz**

P/N:

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Amway.wei	Tony · Wang	James.Liu	
Date: 2013.10.25			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2013.09.17
1.1	Modified according to customer needs	Amway	2013.10.25

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1. Electrical Parameters

MODEL： O22S-2101-12.80MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		12.80		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.33	V	V_{cc}=3.3V, O_{load}=15pF
	Output High Voltage	2.97			V	V_{cc}=3.3V, O_{load}=15pF
	Duty Cycle	40	50	60	%	@50%
	Rise / Fall Time (10%~90%)			10	ns	
	Load		15		pF	
Frequency Stabilities Power Supply	Frequency Tolerance vs. Operating Temperature Range	-0.2		+0.2	$\times 10^{-6}$	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, and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.05		+0.05	$\times 10^{-6}$	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	-0.05		+0.05	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, and O_{Load}=15pF.
	Aging Tolerance Per Day	-0.01		+0.01	$\times 10^{-6}$	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 Month	-0.2		+0.2	$\times 10^{-6}$	
	Aging Tolerance 1 Year	-0.5		+0.5	$\times 10^{-6}$	
	Aging Tolerance 20 Year	-4		+4	$\times 10^{-6}$	

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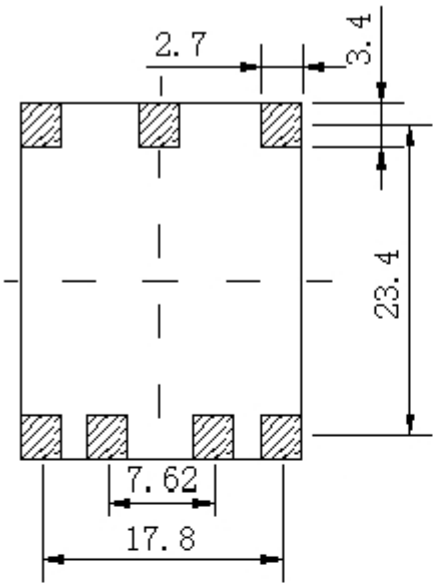
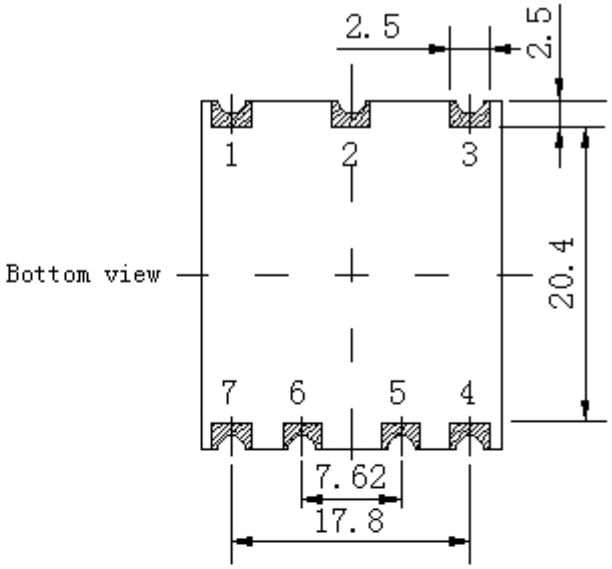
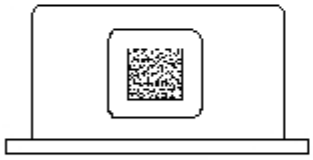
	Overall stability	-4.6		+4.6	$\times 10^{-6}$	Inclusive of the following: - operating temperature -40℃ to 85℃ - 3.3V±5% - 15pF load ±5% - 2 times reflow soldering - 20 years aging reference to nominal frequency
Power Supply	Supply Voltage	3.13	3.3	3.47	V	
	Steady Consumption			300	mA	@25℃
	Warm up current			760	mA	
	Warm-up Time			5	min	@25℃ to final frequency
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
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	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.				

2. Mechanical Structure (mm)

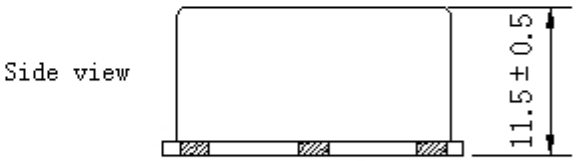


Solder Pad layout



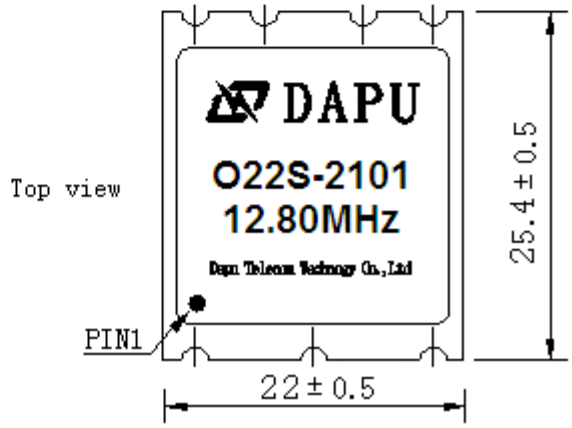


Right view



PIN FUNCTTON

PIN	FUNCTTON
1	NC
2	NC
3	VCC
4	OUTPUT
5,6	NC
7	GND



Note1: Tolerance ±0.2mm without mark

Note2: Referential Weight 7.8g

Note3: NC is not connect

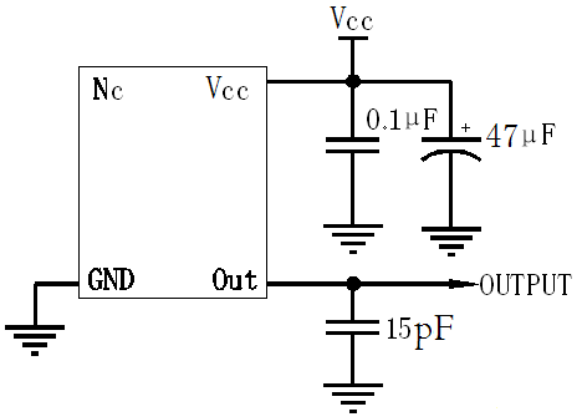
Note4: Material compositon :

Pad/terminals：Cu （Surface plating: Ni 3-6um，Au 0.1～0.5um）

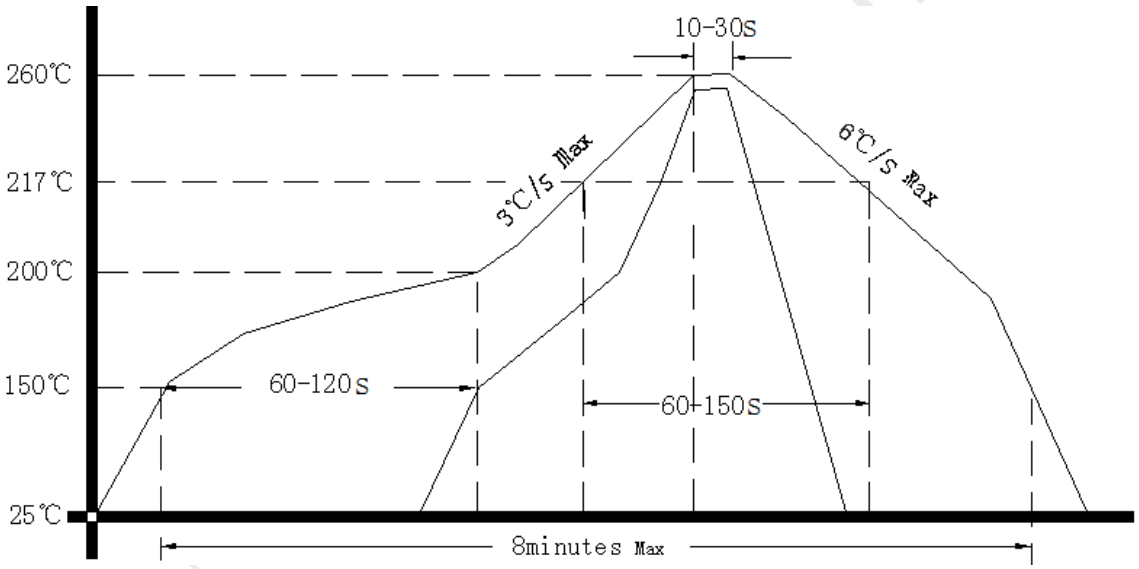
Base: High-TG FR4

Cover：Stainless steel

3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)