Travelling Merchant:_____

DATASHEET

Standard: **O23B-Y346-20.00MHz-A**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Amway.wei	Tony · Wang	James.Liu	
Date: 2014.09.19			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2014.07.29
1.1	"Marking" change	Amway	2014.09.19

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1. Electrical Parameters

MODEL： O23B-Y346-20.00MHz-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		20.00		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.5	V	V_{cc}=12.0V, O_{load}=1KΩ//15pF
	Output High Voltage	4.5			V	V_{cc}=12.0V, O_{load}=1KΩ//15pF
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			10	ns	
	Sub-Harmonics Suppression			-40	dBc	
	Load		1KΩ//15pF			
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-4		+4	$\times 10^{-9}$	T_A varied from 0℃ to 70℃, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, V_{cc}=12.0V, V_c=2.5V, O_{load}=1KΩ//15pF , temperature variable speed less than 2℃per minute.
		-0.01		+0.01	$\times 10^{-6}$	T_A varied from-20℃ to 75℃, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, V_{cc}=12.0V, V_c=2.5V, O_{load}=1KΩ//15pF, temperature variable speed less than 2℃per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=12.0V, V_c=2.5V, and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.3		+0.3	$\times 10^{-9}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 11.4V to 12.6V, V_c =2.5V and O_{Load}=1KΩ//15pF .
	Frequency Tolerance vs. Load	-0.3		+0.3	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=12.0V, V_c=2.5V, and O_{Load}=1KΩ//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℃; 1s, using PN9000 equipment.
	Aging Tolerance Per Day	-0.2		+0.2	$\times 10^{-9}$	V_{cc}, V_c, T_A constant measurement referenced to frequency observed with T_A=25℃, V_{cc}= 12.0V, V_c=2.5V, and after 30 days of operation.
	Aging Tolerance 1 Year	-0.05		+0.05	$\times 10^{-6}$	

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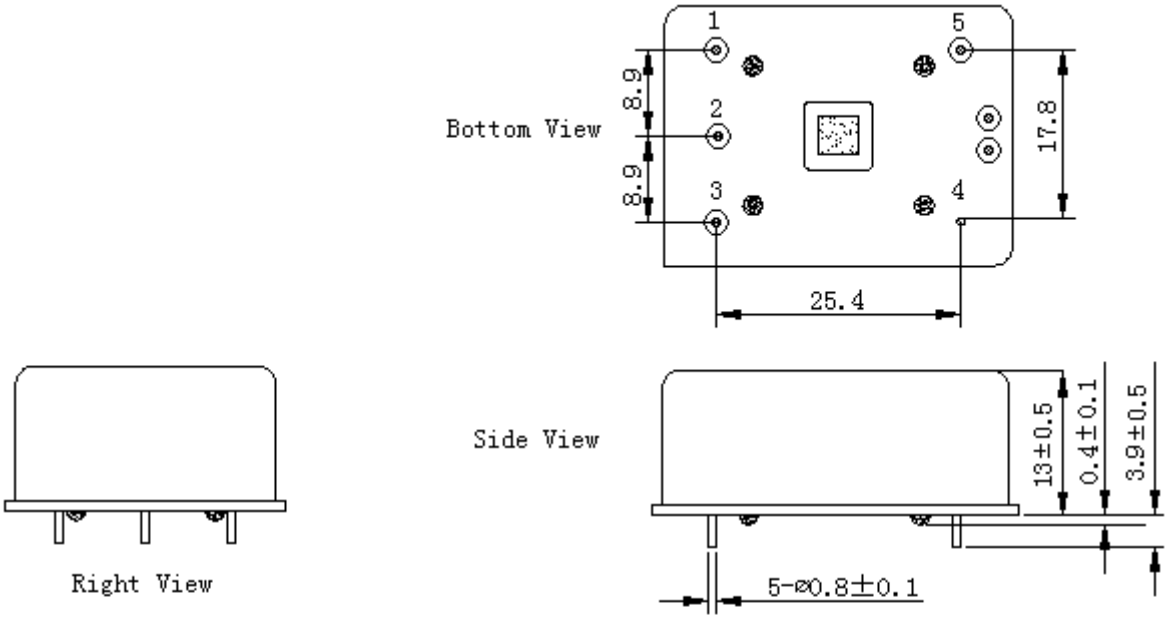
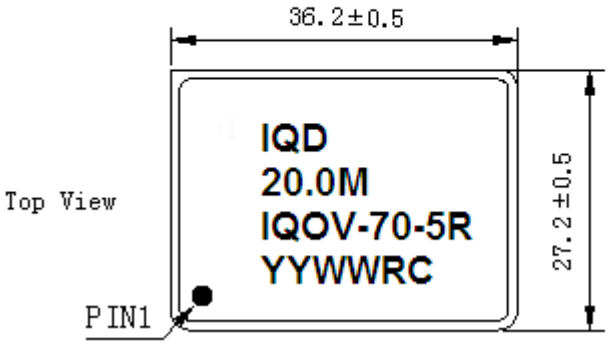
	Aging Tolerance 10 Years	-0.3		+0.3	$\times 10^{-6}$	
Power Supply	Supply Voltage	11.4	12.0	12.6	V	
	Steady Consumption			250	mA	@25℃
	Warm up current			600	mA	
	Warm-Up Time			15	minutes	@25℃within $\pm 0.01\times 10^{-6}$ of final frequency with reference after 1 hour on.
Voltage Control Characteristics	Frequency Tuning Range	-0.8		-0.4	$\times 10^{-6}$	V_c=0V. measurement referenced to V_c=2.5V
		-0.1		+0.1	$\times 10^{-6}$	V_c=2.5V. measurement referenced to exactly 20.00MHz
		+0.4		+0.8	$\times 10^{-6}$	V_c=5.0V. measurement referenced to V_c=2.5V
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise @25℃		-100	-90	dBc/Hz	1Hz
			-130	-120		10Hz
			-145	-135		100Hz
			-150	-145		1KHz
			-155	-150		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	NOTATION	FUNCTION
1	VCC	Supply Voltage
2	NC	Not Connect
3	VC	Control Voltage
4	GND	GND
5	OUTPUT	RF Output



Note1: Tolerance ±0.2mm without mark

Note2: The YY representative: year
The WW representative: week

Note3: Referential Weight 20.7g

Note4: NC is not connect

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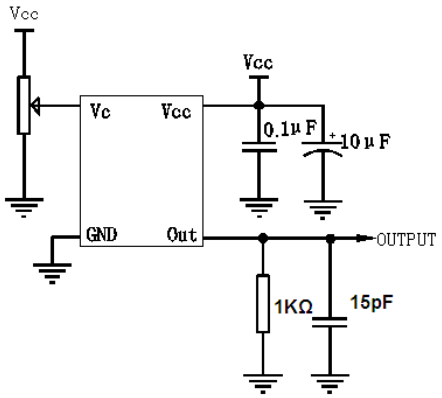
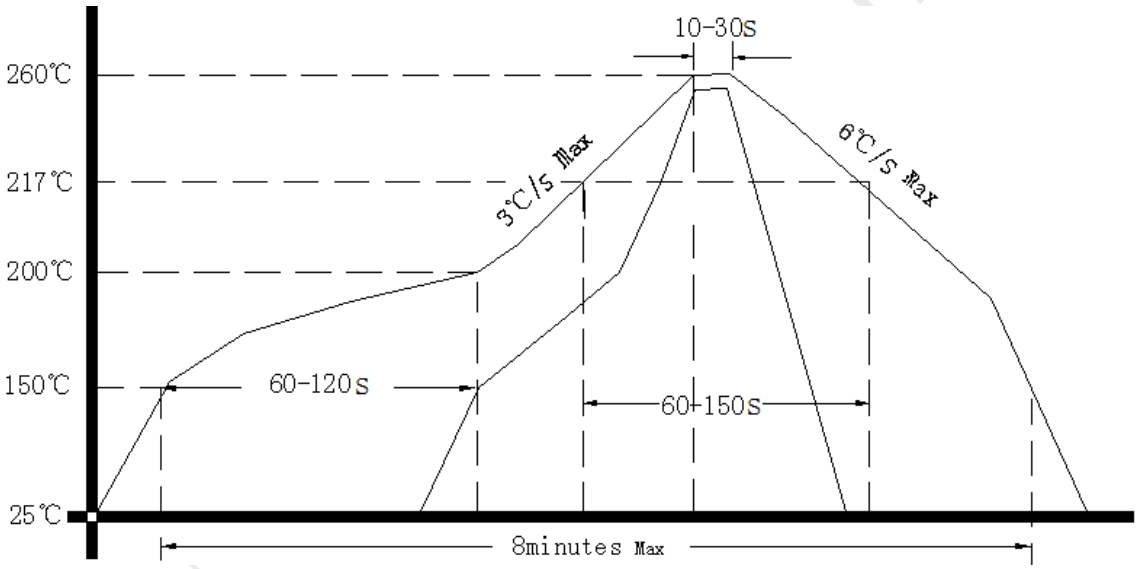
3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package（mm）