Travelling Merchant:_____

DATASHEET

Standard: **T53-Y316-20.00MHz**

P/N: **X53ZCYM20001**

Plot			The Label
Drew	Audited	Approved	
Amway.wei	Carry.Wang	James.Liu	
Date: 2014.09.18			Stamp, please! Thanks!

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2014.09.18

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1. Electrical Parameters

MODEL: T53-Y316-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		20.00		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.1 V_{cc}	V	V_{cc}=3.3V, O_{load}=15 pF
	Output High Voltage	0.9 V_{cc}			V	V_{cc}=3.3V, O_{load}=15 pF
	Duty Cycle	40	50	60	%	@50%
	Rise / Fall Time （10%~90%）			8	ns	@25℃
	Load		15		pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	T_A varied from -40℃ to85℃, measurement referenced to frequency observed with $f_{ref}=(f_{max}-f_{min})/2$, V_{cc}=3.3V, V_c=1.5V, O_{load}=15 pF , temperature variable speed less than 2℃per minute.
	Nominal Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V , V_c=1.5V after 2 times reflow, at shipping.
	Frequency Tolerance vs. Supply Voltage	-0.1		+0.1	$\times 10^{-6}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.134V to 3.465V, V_c=1.5V and O_{Load}=15 pF .
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.5V and O_{Load}=15 pF .
	Aging Tolerance 20 Years	-2.5		+2.5	$\times 10^{-6}$	T_A=25℃, V_{cc}=3.3V, V_c=1.5V and after 1h of operation.
Power Supply	Operating Current		2.7	5	mA	@25℃, V_{cc}=3.3V, V_c=1.5V, O_{Load}=15 pF .
	Supply Voltage	3.135	3.3	3.465	V	
Voltage Control	Frequency tuning range	-10		-5	$\times 10^{-6}$	V_c= 0.5V. measurement referenced to V_c=1.5V.
		-1		+1	$\times 10^{-6}$	Vc=1.5V. measurement referenced to Exactly 20.00MHz.
		+5		+10	$\times 10^{-6}$	V_c=2.5V. measurement referenced to V_c=1.5V.
	Linearity			10	%	
	Slope		Positive			
	Input Impedance	100			KΩ	

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Phase Noise	Phase Noise		-120		dBc/Hz	100Hz
			-140			1KHz
			-153			10KHz
			-156			100KHz
Environmental Conditions	Operable Temperature	-40		+85	℃	
	Storage Temperature	-55		+125	℃	
	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～2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z) .IEC 68-2-06 Test Fc.				
	Shock	100g； 6ms； half sine wave (3 times for each 3 directions X ,Y, Z),IEC 68-2-27 Test Ea/Severity 50A.				

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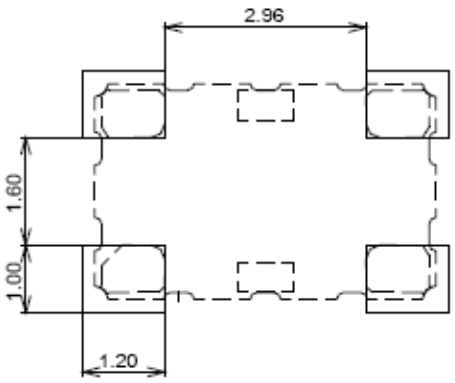
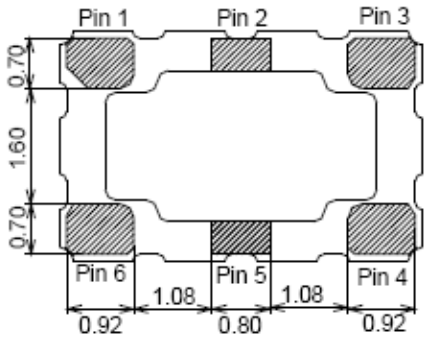
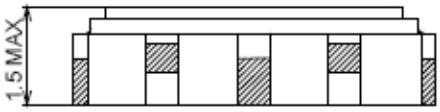
2. Mechanical Structure(mm)



Solder pad layout



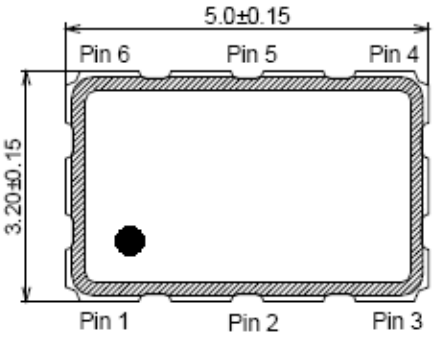
Bottom view



Side view

PIN FUNCTION

PIN	NOTATION	FUNCTION
1	VC	Control Voltage
2	NC	Not Connect
3	GND	GND
4	OUTPUT	RF Output
5	NC	Not Connect
6	VCC	Supply Voltage



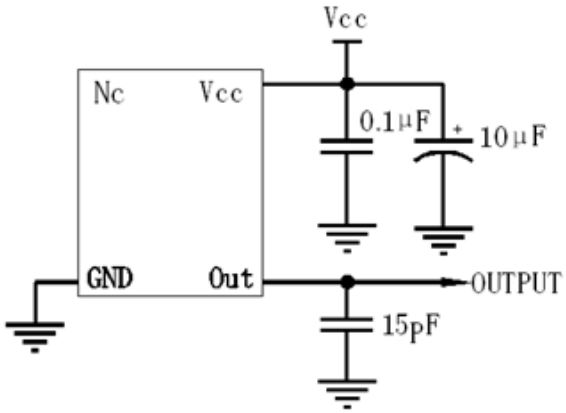
Top view

Note1: Tolerance ±0.1mm without mark

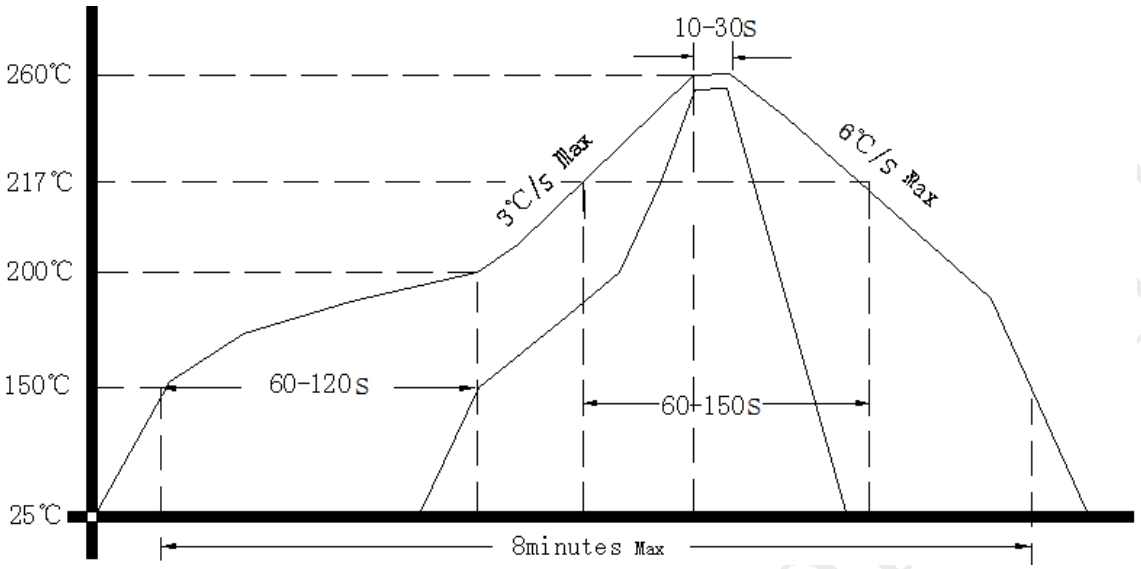
Note2: Referential Weight 0.05g

Note3: NC is not connect

3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)