Travelling Merchant:_____

DATASHEET

Standard: **T53-Y316-10.00MHz**

P/N: **2P1000AARQC1**

Plot			The Label
Drew	Audited	Approved	
Amway.wei	Carry.Wang	James.Liu	
Date: 2016.11.21			Stamp, please! Thanks!

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2016.11.21

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1. Electrical Parameters

MODEL： T53-Y316-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		10.00		MHz	
	Output Waveform		HCMOS			
	Output Low Voltage			0.33	V	V_{cc}=3.3V, O_{load}=15 pF
	Output High Voltage	2.97			V	V_{cc}=3.3V, O_{load}=15 pF
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time （10%~90%）			8	ns	@25℃
	Start time			2	ms	
	Load		15		pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	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=1.5V, O_{load}=15 pF , temperature variable speed less than 2℃per minute.
	Nominal Frequency Tolerance	-2.0		+2.0	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, V_{cc}=3.3V, V_c=1.5V,within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.3		+0.3	$\times 10^{-6}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from 3.13V to 3.47V and V_c=1.5V ,O_{Load}=15 pF .
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	5% 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 1 Year	-1		+1	$\times 10^{-6}$	T_A=25℃, V_{cc}=3.3V, V_c=1.5V and after 1h of operation.
Power Supply	Operating Current			6	mA	@25℃, V_{cc}=3.3V, V_c=1.5V, O_{Load}=15 pF .
	Supply Voltage	3.13	3.3	3.47	V	

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Voltage Control Characteristics	Frequency Tuning Range			-5	$\times 10^{-6}$	V_c=0.5 V. measurement referenced to V_c=1.5V.
		-2.0		+2.0	$\times 10^{-6}$	V_c=1.5V. measurement referenced to Exactly 10.00MHz.
		+5			$\times 10^{-6}$	V_c=2.5V. measurement referenced to V_c=1.5V.
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise			-97	dBc/Hz	10Hz
				-122		100Hz
				-142		1KHz
				-150		10KHz
				-152		100KHz
Environmental Conditions	Operable Temperature	-40		+85	℃	
	Storage Temperature	-55		+125	℃	
	Vibration Test	MIL-STD-883 2007 Condition A				10~2000Hz, 1.52mm, 20G, each axis for 4 hrs
		JESD22-B103 Condition 1				
	Thermal Shock	MIL-STD-883 1010 Condition B				-55℃, 125℃; soak time is 10 mins, with total 200 cycles
		JESD22-A104 Condition B				
	Mechanical Shock	MIL-STD-883 2002 Condition B				1500G, half-sine, 0.5ms, each axis for 3 times.
		JESD22-B104 Condition B				

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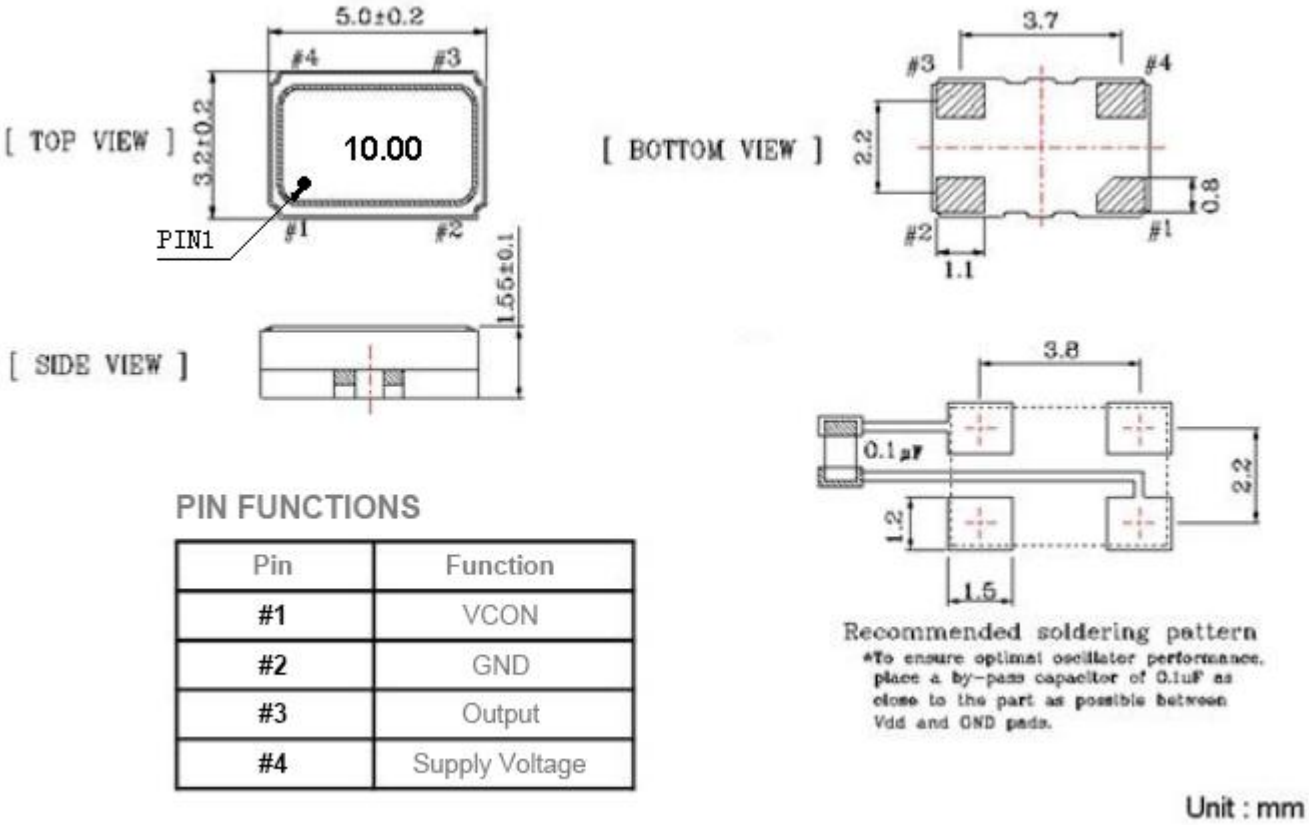
2. Mechanical Structure(mm)



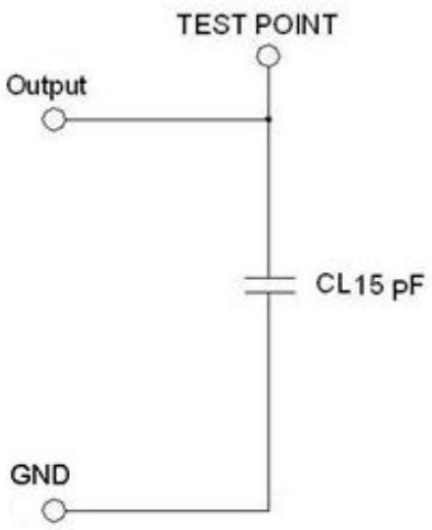
PIN FUNCTIONS

Pin	Function
#1	VCON
#2	GND
#3	Output
#4	Supply Voltage

Unit : mm

Note1: Tolerance ±0.1mm without mark
Note2: Referential Weight 0.05g
Note3: NC is not connect

3. Test Circuit



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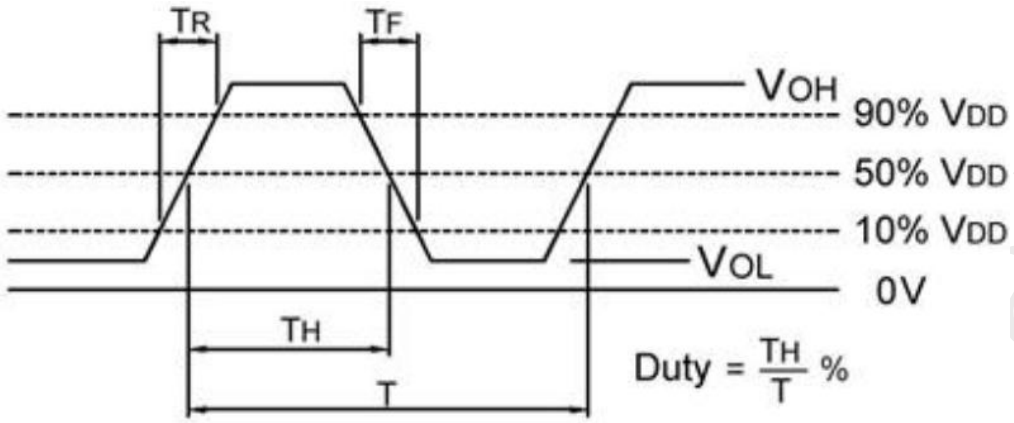
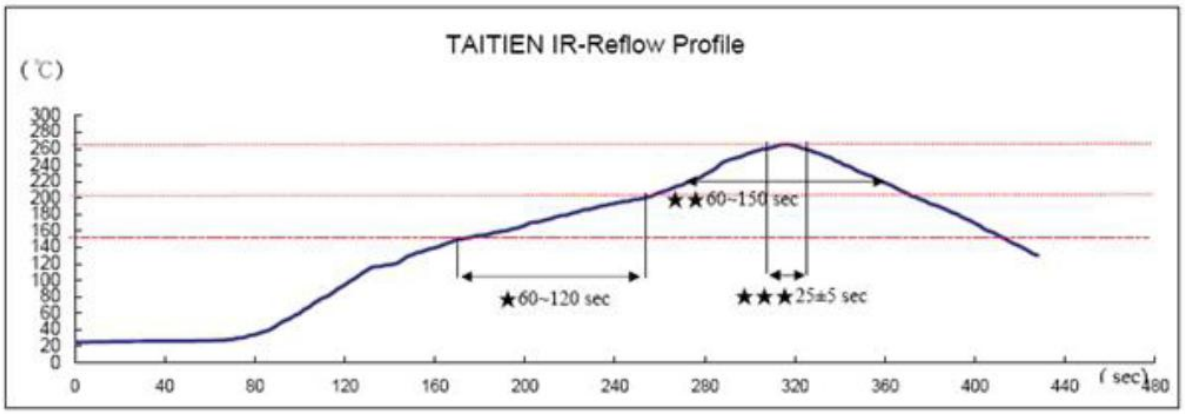
4. Output Waveform



5. Recommended Ir Reflow Profile



Reference Standard: JEDEC-STD 020
Test conditions: ★Pre-heating : 150℃ to 200℃, 60~120secs.
★★Heating : 217℃, 60~150sec.
★★★Peak temperature : 260±5℃, 25±5sec.

6. Package: Tape & Reel (mm)