





### Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2014.09.01
1.1	“Output High Voltage” and “Pin Function” change	<i>Amway</i>	2014.09.29



## 1. Electrical Parameters

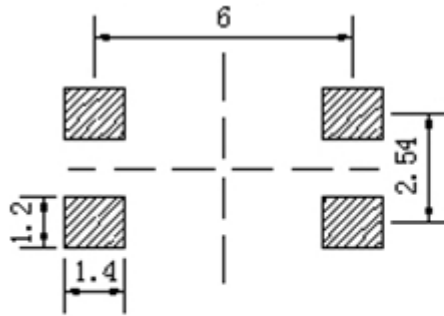
MODEL: T75A-1801-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.33	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.97			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	$T_A$ varied from -40°C to 85°C, measurement referenced to frequency observed with $T_A = 25^\circ\text{C}, V_{cc}=3.3V, O_{load}=15\text{ pF}$ , temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-0.3		+0.3	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.05		+0.05	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, and $O_{Load}=15\text{ pF}$ .
	Frequency Tolerance vs. Load	-0.05		+0.05	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$ .
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V$ , and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
	Aging Tolerance 10 Years	-3		+3	$\times 10^{-6}$	
	Overall Stability	-4.6		+4.6	$\times 10^{-6}$	Inclusive of the following: - operating temperature -40°C to 85°C - Initial Frequency Tolerance ( $T_A=25^\circ\text{C}$ ) - 3.3V $\pm 5\%$ - 15pF load $\pm 5\%$ - Reflow soldering - 20 years aging



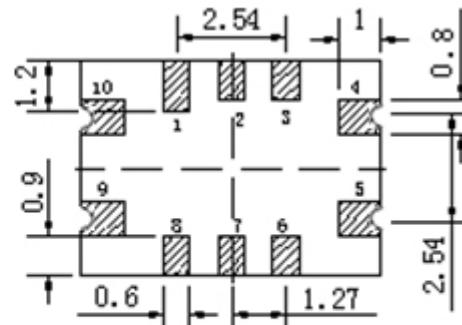
Power Supply	Current Consumption			8	mA	@25°C, V <sub>cc</sub> =3.3V, O <sub>Load</sub> =15pF.
	Supply Voltage	3.13	3.3	3.47	V	
Phase Noise	Phase Noise @25°C		-85	-80	dBc/Hz	10Hz
			-115	-110		100Hz
			-135	-130		1KHz
			-148	-143		10KHz
			-151	-146		100KHz
			-151	-146		1MHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+125	°C	
	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.					



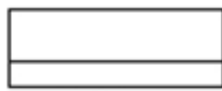
## 2. Mechanical Structure(mm)



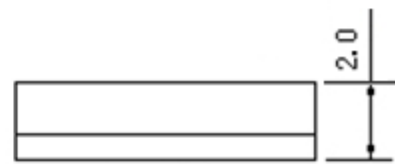
Solder pad layout



Bottom view



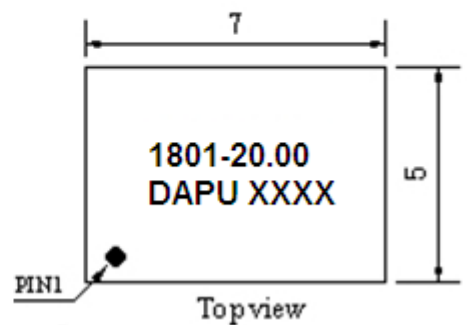
Right view



Front view

### PIN FUNCTION

PIN	NOTATION	FUNCTION
1, 2, 3, 6, 7, 8	NC	Not Connect
4	GND	GND
5	OUTPUT	RF Output
9	VCC	Supply Voltage
10	NC	Not Connect



Topview

**Note1:** Tolerance  $\pm 0.2$ mm without mark

**Note2:** The first two xx representative: week

After two xx representative: year

**Note3:** Referential Weight 0.2g

**Note4:** NC is not connect



### 3. Test circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package: Tape & Reel (mm)

