

Travelling Merchant: _____

DATASHEET

Standard: **T75A-Q313-26.00MHz**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2021.11.30			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2021.11.30



1. Electrical Parameters

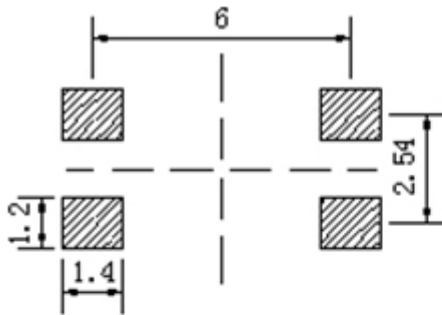
MODEL: T75A-Q313-26.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	26.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$
	Duty Cycle	45		55	%	@50%
	Start-up Time			10	ms	90% amplitude
				45	ms	Within $\pm 0.5\text{ppm}$ of steady state frequency
	Rise / Fall Time (10%~90%)			8	ns	@25°C
Load	15			pF		
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.1		+0.1	$\times 10^{-6}$	T_A varied from -40°C to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, $V_{cc}=3.3V$, $V_c=1.35V$, $O_{load}=15\text{pF}$, temperature variable speed less than 2°C per minute.
	Nominal Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_{cc}=3.3V$, $V_c=1.35V$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.25		+0.25	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}$, V_{cc} varied from 3.13V to 3.47V, $V_c=1.35V$ and $O_{Load}=15\text{pF}$.
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_{cc}=3.3V$, $V_c=1.35V$, $O_{Load}=15\text{pF}$
	Reflow Shift			± 0.5	$\times 10^{-6}$	Pre to post reflow ΔF (measured ≥ 60 minute safter reflow)
	Slope Over Temperature			± 0.06	$\times 10^{-6}/^\circ\text{C}$	$\Delta F/\Delta T$
	Acceleration Sensitivity		2		$\times 10^{-9}/g$	Gamma vector, 3-axes, 30-1500Hz
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	$T_A=25^\circ\text{C}$, $V_{cc}=3.3V$, $V_c=1.35V$ and after 1h of operation.
	Aging Tolerance 10 Year	-3		+3	$\times 10^{-6}$	
Power Supply	Current Consumption			6	mA	@25°C, $V_{cc}=3.3V$, $V_c=1.35V$, $O_{load}=15\text{pF}$.
	Supply Voltage	3.135	3.3	3.465	V	
	Reference Voltage		2.5		V	Stability of Temp: $10 \times 10^{-6}/^\circ\text{C}$



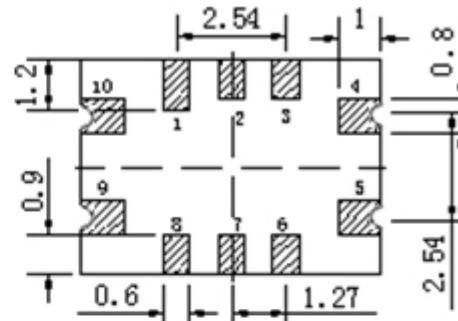
Tri-state Control	Tri-state control (pin 8), input level low (VIL)			0.2Vcc	V	Device disabled (output in high impedance state)
	Tri-state control (pin 8), input level high (VIH)	0.6Vcc			V	Device enabled (operating)
Voltage Control Characteristics	Frequency Tuning Range	-10		-5	$\times 10^{-6}$	V _c =0V. measurement referenced to V _c =1.35V.
		-1		+1	$\times 10^{-6}$	V _c =1.35V. measurement referenced to Exactly 26.00MHz.
		+5		+10	$\times 10^{-6}$	V _c =2.7V. measurement referenced to V _c =1.35V.
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise @25°C		-60		dBc/Hz	1Hz
			-90			10Hz
			-120			100Hz
			-145			1KHz
			-150			10KHz
			-155			100KHz
			-155			1MHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+105	°C	
	ESD Level	Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.				
	Moisture Sensitivity Level	Level 3.				
	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.					



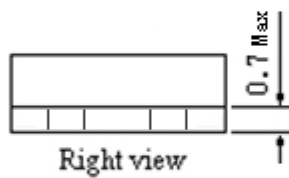
2. Mechanical Structure(mm)



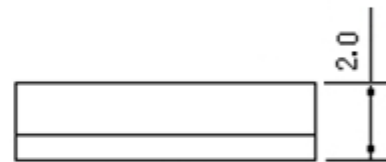
Solder pad layout



Bottom view



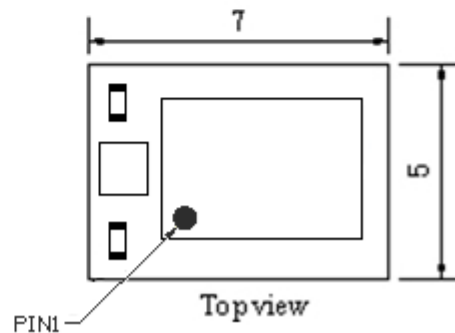
Right view



Front view

PIN FUNCTION

PIN	NOTATION	FUNCTION
1	Vref	Reference Voltage
2, 3, 6, 7	NC	Not Connect
4	GND	GND
5	OUTPUT	RF Output
8	Tri-state	Enable/Disable
9	VCC	Supply Voltage
10	VC	Control Voltage



Topview

Note1: Tolerance $\pm 0.20\text{mm}$ without mark

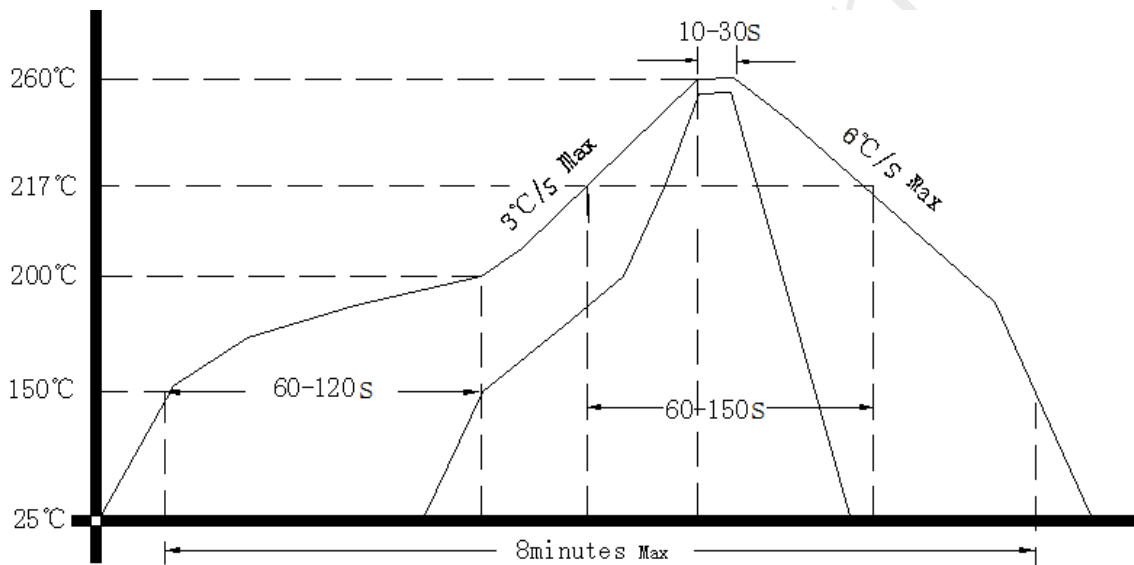
Note2: Referential weight 0.05g



3. Test circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

