

Travelling Merchant: _____

DATASHEET

Standard: **T75B-Q319-19.44MHz**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2017.12.28			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2017.12.28

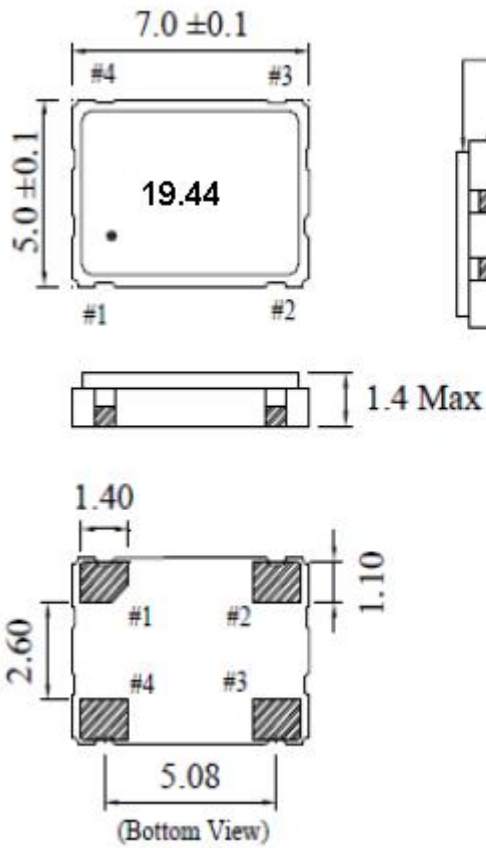


1. Electrical Parameters

MODEL: T75B-Q319-19.44MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	19.44			MHz	
	Output Waveform	HCMOS				
	Output Voltage Low			0.1	Vdd	V _{cc} =3.3V, O _{load} =15 pF
	Output Voltage High	0.9			Vdd	V _{cc} =3.3V, O _{load} =15 pF
	Duty Cycle	40	50	60	%	@50%
	Rise / Fall Time (10%~90%)			10	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-2.5		+2.5	× 10 ⁻⁶	-30~85°C
	Initial Frequency Tolerance	-2.5		+2.5	× 10 ⁻⁶	T _A = 25°C ± 3°C
	Frequency Tolerance vs. Supply Voltage	-0.5		+0.5	× 10 ⁻⁶	Vdd ± 5%
	Frequency Tolerance vs. Load	-0.3		+0.3	× 10 ⁻⁶	load varies ± 5%
	Aging Tolerance 1 Year	-1		+1	× 10 ⁻⁶	
Power Supply	Current Consumption			7	mA	@25°C, V _{cc} =3.3V, O _{Load} =15pF.
	Supply Voltage	3.13	3.3	3.47	V	
Environmental Conditions	Operable Temperature	-30		+85	°C	
	Storage Temperature	-40		+85	°C	



2. Mechanical Structure(mm)



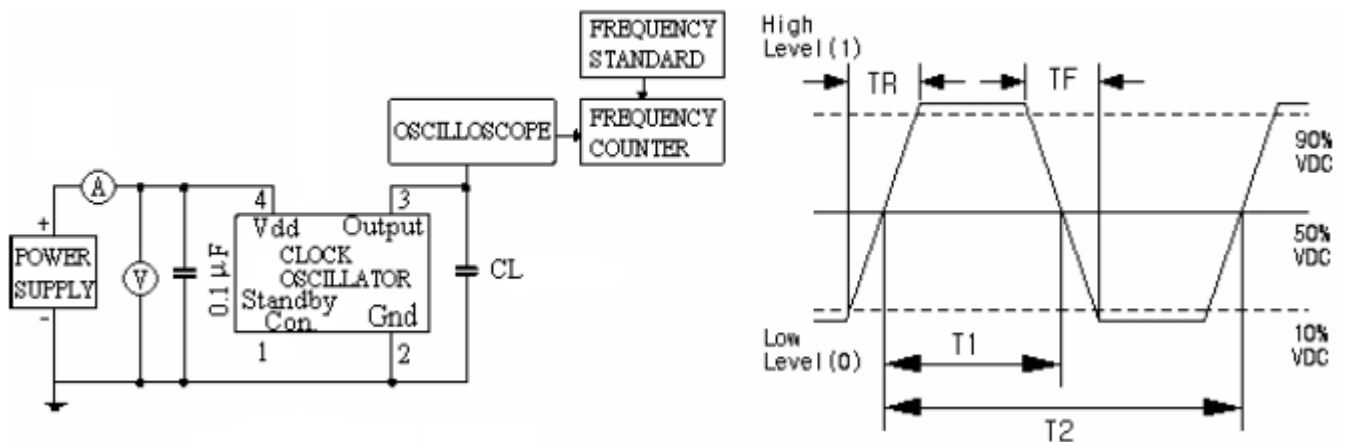
Pin Connections

- # 1 : INH
- # 2 : Gnd
- # 3 : Output
- # 4 : V_{dd}

INH Function	
#1	#3(Output)
Open	Active
"H"Level	Active
"L"Level	High Z(Oscillation Stopped)

Note1: Tolerance ±0.2mm without mark

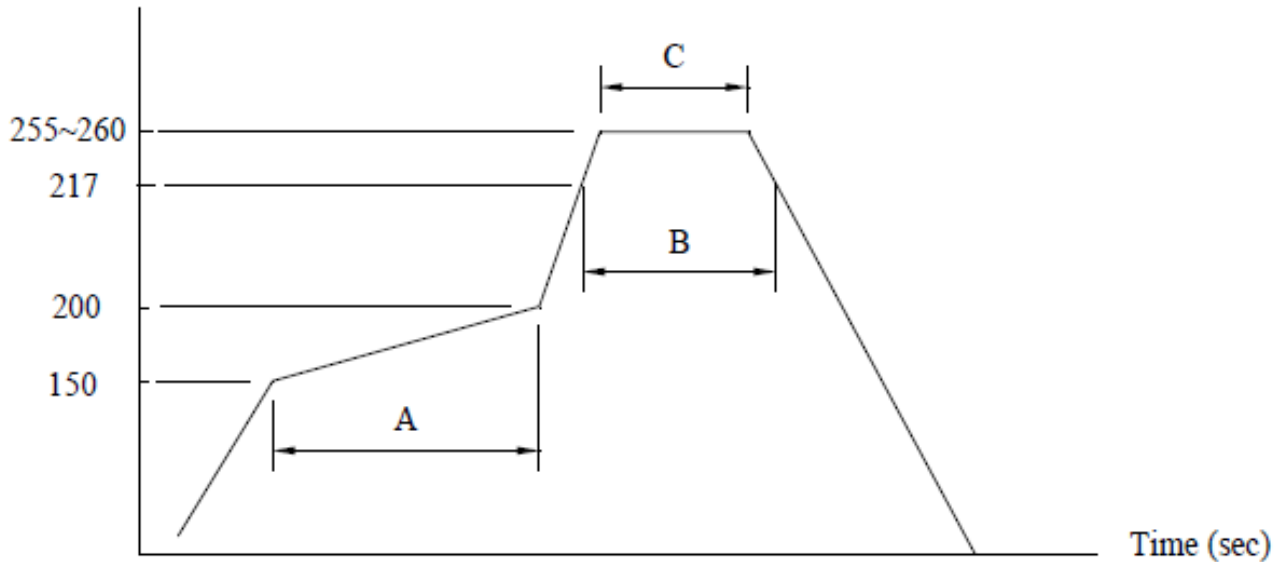
3. Test circuit





4. Reflow Soldering Curve (RoHS)

Temp. (deg.C)



(A)→Preheating area : 150~200°C, 60~120sec.

(B)→Heating area : 217°C, 60~150sec.

(C)→Peak temperature : 255~260°C, 30sec. Max.

Ramp-up rate (217→260°C) : 3°C/sec. Max.

Ramp-down rate (260→217°C) : 6°C/sec. Max.

Time 25°C→260°C : 480sec. Max.

*Referance JEDEC J-STD-020



5、 Reliability Test

Test Items	Test Condition	Specification	
		General OSC (Note:1)(Note:3)	General X'tal (Note:2)
1. Gross Leak Test	Electronic test fluid 125°C/30sec	No continuous bubble	
2. Fine Leak Test	Bombing of He 4.5kg/cm ² for 1.5 hours	Less than 1*10 ⁻⁸ atm.c.c./sec, Helium	
3. Drop Test	a ~19.999MHz(Fund.) →75 cm height b. 20~29.999MHz(Fund.) →50 cm height c. 30~ MHz(Fund.) →20 cm height on hard wooden surface / 3 times (thickness more than 30 mm)	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
4. Vibration Test	Freq. range: 10~55Hz Peak to peak amplitude:1.5mm 3 direction(X,Y,Z) , each 60min.	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
5. Shearing Test	Weight : 5N, Test duration : 10±1 sec	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
6. Substrate Bending Test	Test duration : 5±1 sec Amount of substrate : 3mm	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
7. Resistance to Soldering Test	IR Reflow furnace with the condition 2 times. Peak temp.260±3°C , 10sec(Min.)	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
8. Low Temp. Exposure Test	-40±3°C, 240±12 hrs	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
9. Aging Test	125±3°C, 240±12hrs	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
10. High Temp. & Humidity Test	+85°C±5°C & 85%±5% R.H. , 240±12 hrs	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$
11. Temperature Cycling Test	-40±3°C/15±3min ~ +85±3°C/15±3min 15cycles	$\Delta F \leq \pm 10\text{PPM}$, Duty within spec.	$\Delta F \leq \pm 10\text{PPM}$, $\Delta C.I. \leq \pm 10\text{ohms}$

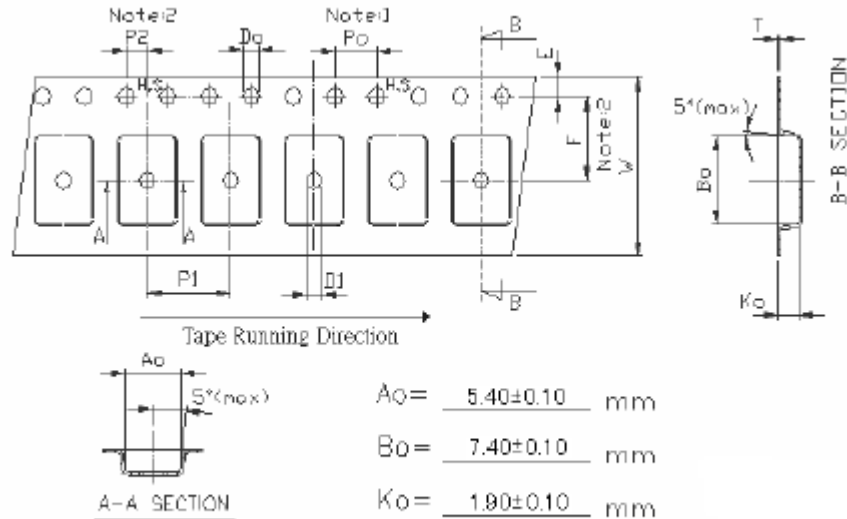
Note:1 → For communication application the spec. demanded " $\Delta F \leq \pm 5\text{ PPM}$, Duty within spec."

Note:2 → For communication application the spec. demanded " $\Delta F \leq \pm 5\text{ PPM}$, $\Delta C.I. \leq \pm 5\text{ ohms}$ "

Note:3 → For TCXO series products demanded " $\Delta F \leq \pm 2\text{PPM}$,Duty(Vpp) within spec."



6、 Package: Tape & Reel (mm)



Unit: mm

Symbol	Spec.
K1	-
P0	4.00±0.10
P1	8.00±0.10
P2	2.00±0.10
D0	1.50 ^{+0.1} ₀
D1	1.50(min)
E	1.75±0.10
F	7.50±0.10
10P0	40.0±0.10
W	16.0±0.30
T	0.30±0.05

Notices:

1. 10 Sprocket hole pitch cumulative tolerance is ±0.10 mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. A₀ & B₀ measured on a plane 0.3mm above the bottom of the pocket to top surface of the carrier.
4. K₀ measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

	Date	Name	Unit : mm	
Drawn	21.Feb.2011	Leo	Title Tape & Reel Dimension	Drawing No. C009-050719-O-1101
Checked	21.Feb.2011	Iris		
Approved	21.Feb.2011	Wan		