

Customer Code : \_\_\_\_\_

# DATASHEET

DAPU P/N: T75A-K769-33.6MHz-K

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2021.12.23			

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## 1. Electrical Parameters

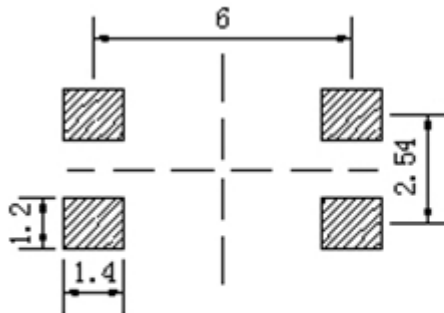
MODEL: T75A-K769-33.6MHz-K							
Item	Description	Parameters			Unit	Test Condition	
		Min.	Typ.	Max.			
Output	Frequency	33.60			MHz		
	Output Waveform	HCMOS					
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$	
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15\text{ pF}$	
	Duty Cycle	45	50	55	%	@50%	
	Load	15			pF		
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range		-0.5		+0.5	$\times 10^{-6}$	$T_A$ varied from $-40^\circ\text{C}$ to $85^\circ\text{C}$ , measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.5V, O_{load}=15\text{ pF}$ , temperature variable speed less than $2^\circ\text{C}$ per minute.
			-2.5		+2.5	$\times 10^{-6}$	$T_A$ varied from $-50^\circ\text{C}$ to $-40^\circ\text{C}$ , measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.5V, O_{load}=15\text{ pF}$ , temperature variable speed less than $2^\circ\text{C}$ per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ , within 30 days after ex-works.	
	Frequency Tolerance vs. Supply Voltage	-0.1		+0.1	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}, V_{cc}$ varied from 3.13V to 3.47V, $V_c=1.5V$ , and $O_{Load}=15\text{ pF}$ .	
	Frequency Tolerance vs. Load	-0.1		+0.1	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ , and $O_{Load}=15\text{ pF}$ .	
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{cc}=3.3V, V_c=1.5V$ , and after 1h of operation.	
Power Supply	Operating Current			10	mA	@ $25^\circ\text{C}, V_{cc}=3.3V, O_{Load}=15\text{ pF}$ .	
	Supply Voltage	3.13	3.3	3.47	V		



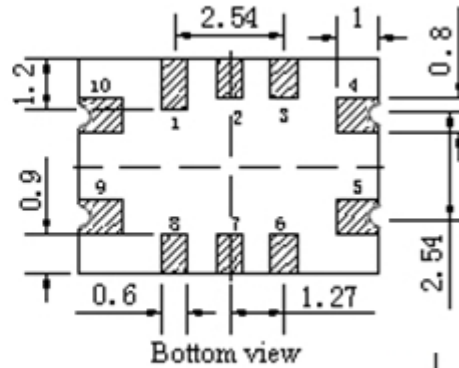
Voltage Control Characteristics	Frequency Tuning Range			-5	$\times 10^{-6}$	$V_c=0.5V$ . measurement referenced to $V_c=1.5V$
		-1		+1	$\times 10^{-6}$	$V_c=1.5V$ . measurement referenced to exactly 33.60MHz
		+5			$\times 10^{-6}$	$V_c=2.5V$ . measurement referenced to $V_c=1.5V$
	Linearity			10	%	
	Slope	Positive				
Input Impedance	100				K $\Omega$	
Phase Noise	Phase Noise @25°C		-75	-70	dBc/Hz	10Hz
			-105	-100		100Hz
			-130	-125		1KHz
			-145	-140		10KHz
			-145	-140		100KHz
			-150	-145		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.					
Full Package Storage	Relative humidity (%)	20% ~ 70%				
	Temperature (°C)	-10~35°C				



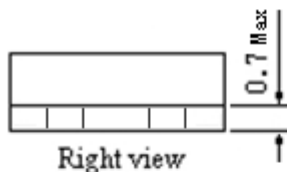
## 2. Mechanical Structure(mm)



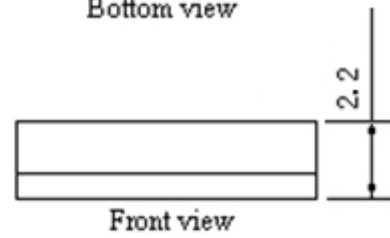
Solder pad layout



Bottom view



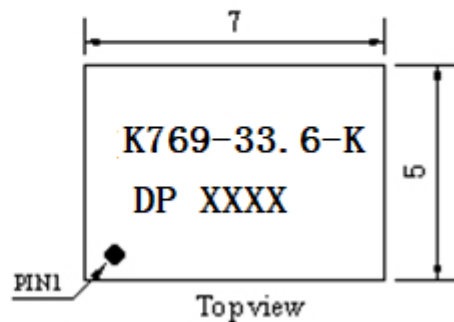
Right view



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	VC	Control Voltage



Topview

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

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

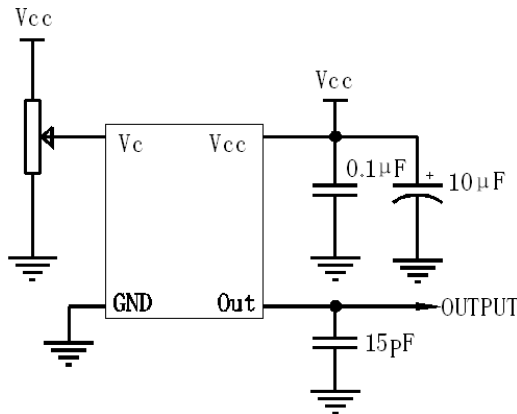
After two xx representative: year

**Note3:** Referential weight 0.2g

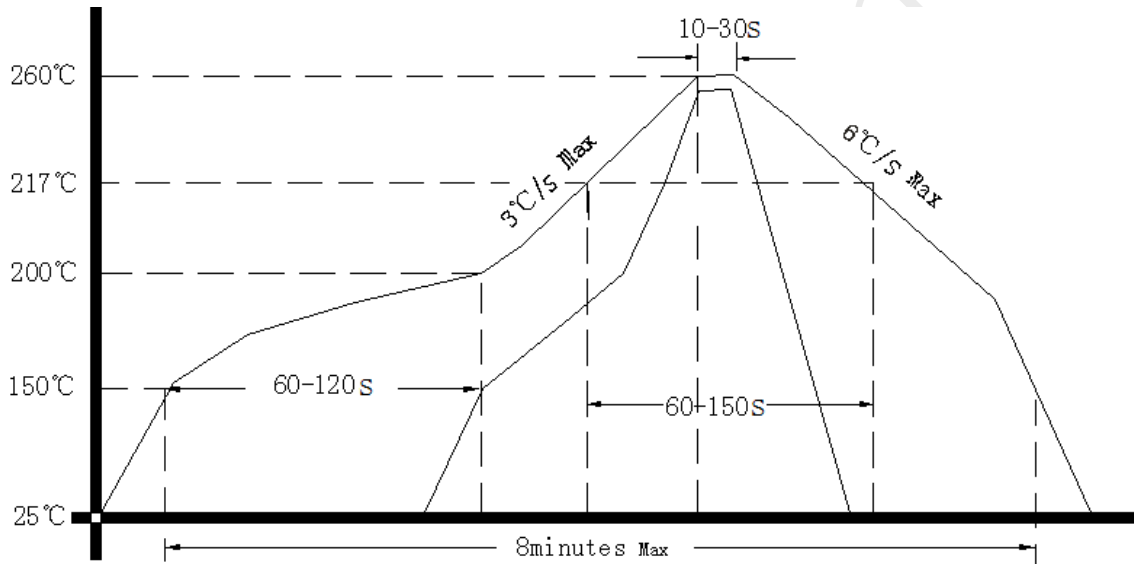
**Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



**Note:** If soldering with a hot air gun, ensure the temperature < 320°C , soldering time < 15 seconds.

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

