







## 1. Electrical Parameters

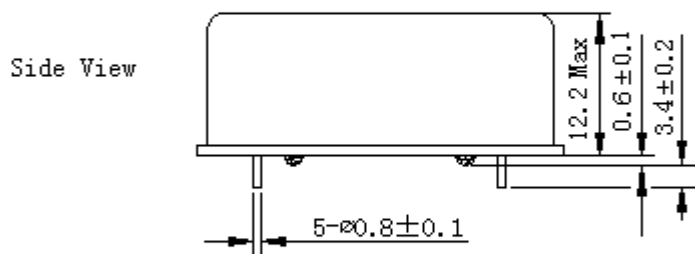
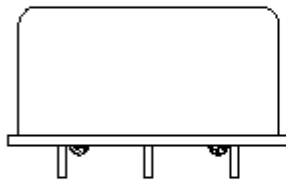
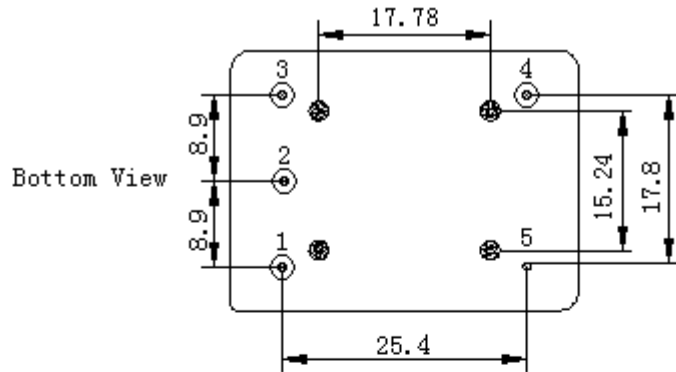
MODEL: O23B-0801-13.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	13.00			MHz	
	Output Waveform	Sine wave				
	Level	7	9	11	dBm	
	Load	50			$\Omega$	
	Harmonics Suppression			-30	dBc	
	Spurious Suppression			-80	dBc	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-10		+10	$\times 10^{-9}$	$T_A$ varied from $-40^\circ\text{C}$ to $70^\circ\text{C}$ , measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=3.0\text{V}$ , $O_{\text{load}}=50\Omega$ , temperature variable speed less than $2^\circ\text{C}$ per minute.
	Initial Frequency Tolerance	-0.2		+0.2	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=3.0\text{V}$ , and after 30 minutes of operation, within 60 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-1.5		+1.5	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}$ , $V_{\text{cc}}$ varied from 11.4V to 12.6V, $V_c=3.0\text{V}$ , and $O_{\text{Load}}=50\Omega$ .
	Frequency Tolerance vs. Load	-1.5		+1.5	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=12\text{V}$ , and $O_{\text{Load}}=50\Omega$ .
	Short-Term Stability Allan Variance			0.02	$\times 10^{-9}$	Temperature stability, no EMI/EMC or other interference, test after power for 1hour ref. to $25^\circ\text{C}$ ; 1s, using PN9000 equipment.
	Retrace	-5		+5	$\times 10^{-9}$	Power off 24 hours, power on 1 hour.
	Aging Tolerance Per Day	-1.0		+1.0	$\times 10^{-9}$	$V_{\text{cc}}, V_c, T_A$ constant measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=3.0\text{V}$ , and after 30 days of operation.
	Aging Tolerance 1 Year	-0.1		+0.1	$\times 10^{-6}$	
	Aging Tolerance 10 Year	-0.4		+0.4	$\times 10^{-6}$	



Power Supply	Supply Voltage	11.4	12	12.6	V	
	Steady Consumption			100	mA	@25°C
	Warm up current			350	mA	
	Warm up time			10	min	@25 °C within $\pm 0.05 \times 10^{-6}$ of final frequency with reference after 1 hour on.
Voltage Control Characteristics	Frequency Tuning Range	0.7		1.0	$\times 10^{-6}$	$V_c=0V$ . measurement referenced to $V_c=3.0V$ .
		-0.2		+0.2	$\times 10^{-6}$	$V_c=3.0V$ . measurement referenced to exactly 13.00MHz.
		-1.0		-0.7	$\times 10^{-6}$	$V_c=6.0V$ . measurement referenced to $V_c=3.0V$ .
	Linearity			15	%	
	Slope	Negative				
	Input Impedance	100			K $\Omega$	
Phase Noise	Phase Noise		-80	-70	dBc/Hz	1Hz
			-120	-110		10Hz
			-140	-130		100Hz
			-150	-145		1KHz
			-155	-150		10KHz
Environmental Conditions	Operable Temperature	-40		+70	°C	
	Storage Temperature	-40		+85	°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	Not humidity sensitive.				
	Vibration	Test Condition: 0.75mm ;acceleration:10g;10Hz~500Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X , Y , Z), IEC 68-2-06 Test Fc.				
Shock	50g; 11ms; 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				

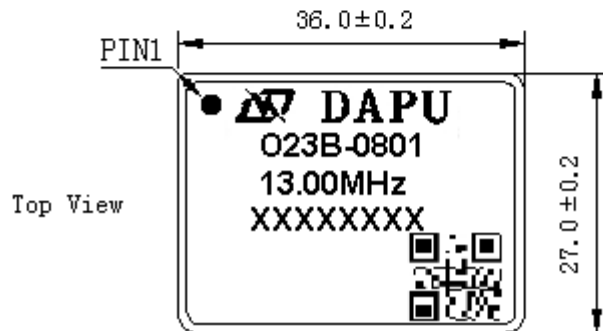


## 2. Mechanical Structure (mm)



### PIN FUNCTION

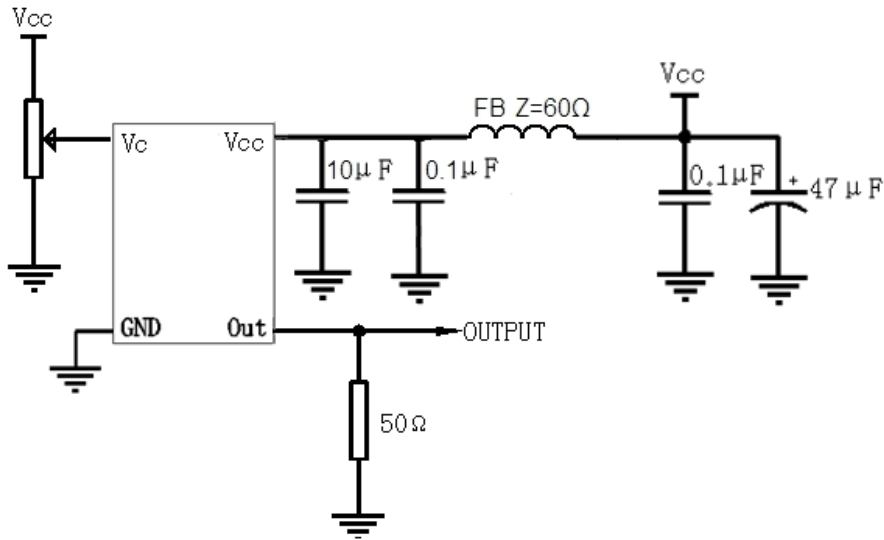
PIN	NOTATION	FUNCTION
1	VC	Control Voltage
2	NC	Not Connect
3	VCC	Supply Voltage
4	OUTPUT	RF Output
5	GND	GND



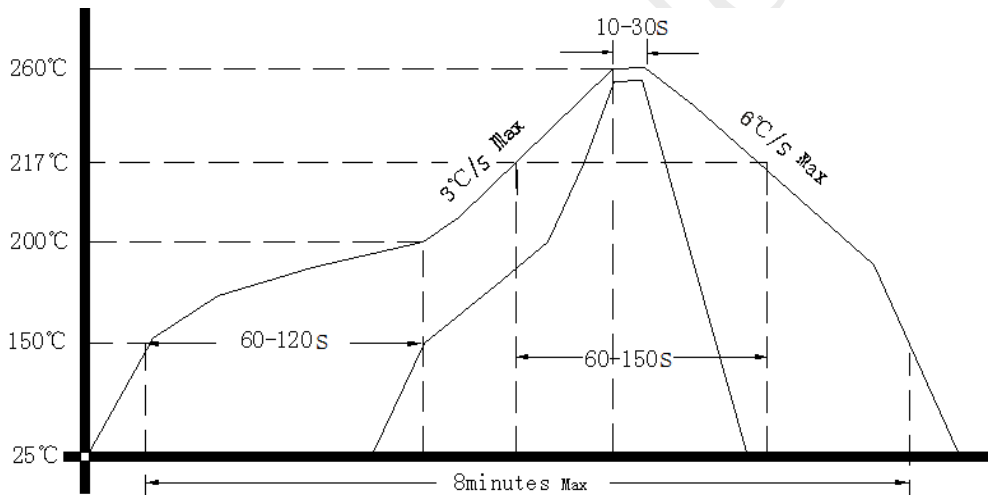
- Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark  
**Note2:** The first two xx representative: week  
 After two xx representative: year  
 At last four xxxx representative: serial number  
**Note3:** Referential weight 20.7g  
**Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package (mm)

