



1. Electrical Parameters

MODEL: O23B-0802-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	LVTTTL				
	Output Low Voltage			0.4	V	$V_{cc}=5.0V, O_{load}=15pF$
	Output High Voltage	2.8			V	$V_{cc}=5.0V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Output overshoot			10	%	
	Load	15			pF	
	Spurious Suppression			-70	dBc	
	Jitter			1	ps	RMS(12KHz~50MHz)
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.2		+0.2	$\times 10^{-9}$	T_A varied from $-20^{\circ}C$ to $80^{\circ}C$, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, $V_{cc}=5.0V, O_{load}=15pF$, temperature variable speed less than $2^{\circ}C$ per minute.
	Initial Frequency Tolerance	-0.05		+0.05	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=60^{\circ}C$ or $25^{\circ}C$, $V_{cc}=5.0V, DAC=0x7FFF$, and after 30 minutes of operation.
	Frequency Tolerance vs. Supply Voltage	-0.1		+0.1	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^{\circ}C$, V_{cc} varied from 4.75V to 5.25V, and $O_{Load}=15pF$.
	Frequency Tolerance vs. Load	-0.1		+0.1	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with $T_A=25^{\circ}C$, $V_{cc}=5.0V$, and $O_{Load}=15pF$.
	Micro Jump	-0.05		+0.05	$\times 10^{-9}$	Continuous testing for 48 hours, temperature fluctuations $<3^{\circ}C$, one sampling/10s.
	Temper Hysteresis Effect	-0.2		+0.2	$\times 10^{-9}$	Over temperature range($10^{\circ}C$ /hour)
	MTIE			1.5	μs	12 hours period, temperature fluctuations $<15^{\circ}C$.
	Retrace	-5		+5	$\times 10^{-9}$	After 24 hour off at $25^{\circ}C$, 15min power on.



	Short-Term Stability: Allan Variance			0.005	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 1s, using PN9000 equipment.
				0.02	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 100s, using PN9000 equipment.
	Aging Tolerance Per Day	-0.1		+0.1	$\times 10^{-9}$	V_{cc} , T_A constant measurement referenced to frequency observed with $T_A=25^\circ\text{C}$, $V_{cc}=5.0\text{V}$, before shipment.
	Aging Tolerance 1 Year	-0.015		+0.015	$\times 10^{-6}$	
	Aging Tolerance 10 Years	-0.15		+0.15	$\times 10^{-6}$	
	Aging Tolerance 15 Years	-0.2		+0.2	$\times 10^{-6}$	
Power Supply	Supply Voltage	4.75	5.0	5.25	V	
	Steady Consumption			700	mA	@25°C
	Warm up current			1500	mA	
	Warm-Up Time			8	min	@25°C within $\pm 0.01 \times 10^{-6}$ of final frequency with reference after 1 hour on.
DAC Control Characteristics	Frequency Tuning Range	-0.5		-0.3	$\times 10^{-6}$	DAC=0x0000. measurement referenced to DAC=0x7FFF
		-0.05		+0.05	$\times 10^{-6}$	DAC=0x7FFF. measurement referenced to Exactly 10.00MHz
		+0.3		+0.5	$\times 10^{-6}$	DAC=0xFFFF. measurement referenced to DAC=0x7FFF
	Linearity			5	%	
	Slope	Positive				
Phase Noise	Phase Noise @25°C			-85	dBc/Hz	1Hz
				-115		10Hz
				-135		100Hz
				-145		1KHz
				-145		10KHz
				-150		100KHz
				-155		1MHz

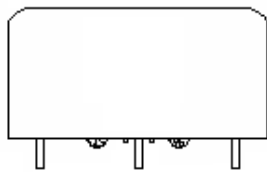
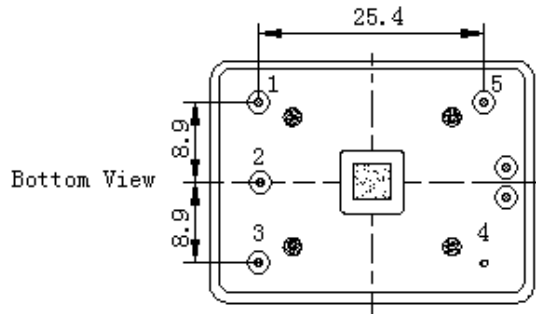


Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-40		+85	°C	
	Operating Humidity	5		85	%	
	ESD Level	Human Body Model, class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; ANSI/ESDA/JEDEC JS-001-2010.				
	Moisture Sensitivity Level	Not humidity sensitive.				
	Vibration	Test Condition: 0.75mm ;acceleration:30m/s ² ;5Hz~500Hz, test 2 hours for each 3 directions (X ,Y , Z) , IEC 68-2-06 Test Fc.				
Shock	200m/s ² ; 6ms; half sine wave (3 times for each 3 directions X, Y, Z), IEC 68-2-27 Test Ea/Severity 50A.					
Free Fall	Height:300mm					
Full Package Storage	Relative humidity (%)	20%~70%				
	Temperature (°C)	-10~35°C				

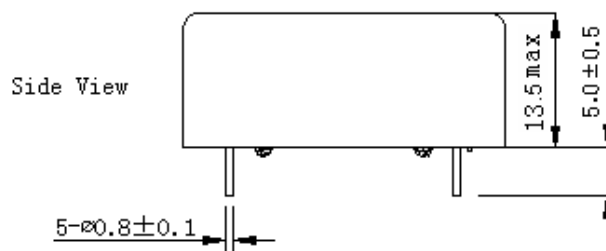
Note: The frequency difference between before and after the test (Vibration, Shock, Free Fall) is less than 0.5×10^{-6} .



2. Mechanical Structure (mm)



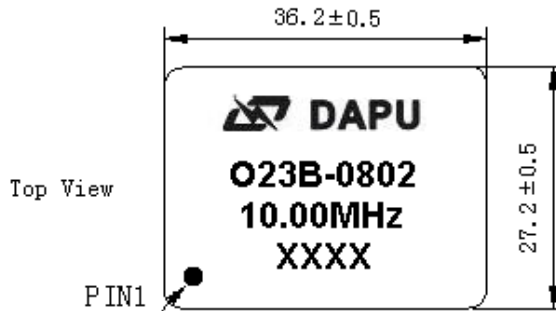
Right View



Side View

PIN FUNCTION

PIN	FUNCTION
1	VCC
2	SDA
3	SCL
4	GND
5	OUTPUT



Top View

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

Note2: The first two xx representative: week
After two xx representative: year

Note3: Referential Weight 20.7g

3. I²C Devices Address

3.1 DIGITAL-TO-ANALOG CONVERTER,VOLTAGE OUTPUT

Device name : DAC8571

Device supplier : TI

Device address : 1001100

3.2.1 256kbit I²C SERIAL EEPROM

Device name : AT24C256

Device supplier : Atmel

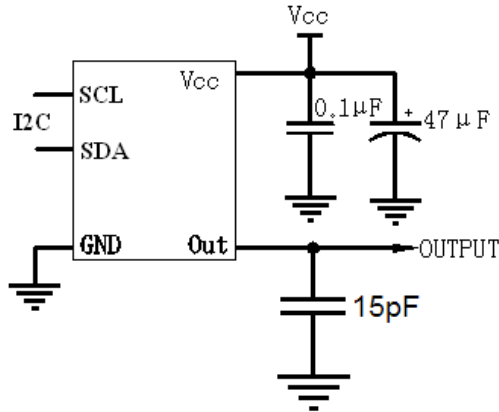
Device address : 1010100



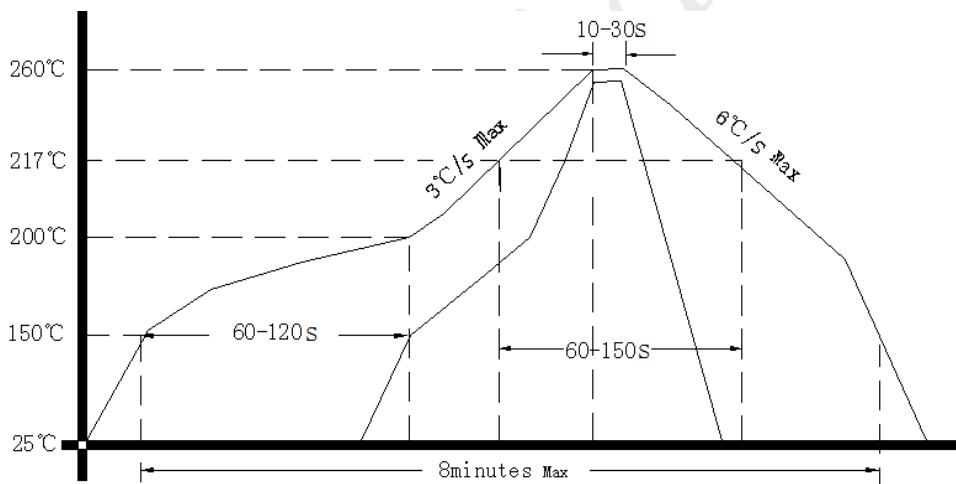
3.2.2 EEPROM for inventory and data storage

Note: Pls refer to *EEPROM Data Storage Definition of High Stability OCXO* for the detailed information.

4. Test Circuit



5. Reflow Soldering Curve (RoHS)



6. Package (mm)

