

Travelling Merchant: \_\_\_\_\_

# DATASHEET

Standard: **O22B-BCGBCBN-16.384MHz**

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2018.12.21			

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## 1、Electrical Parameters

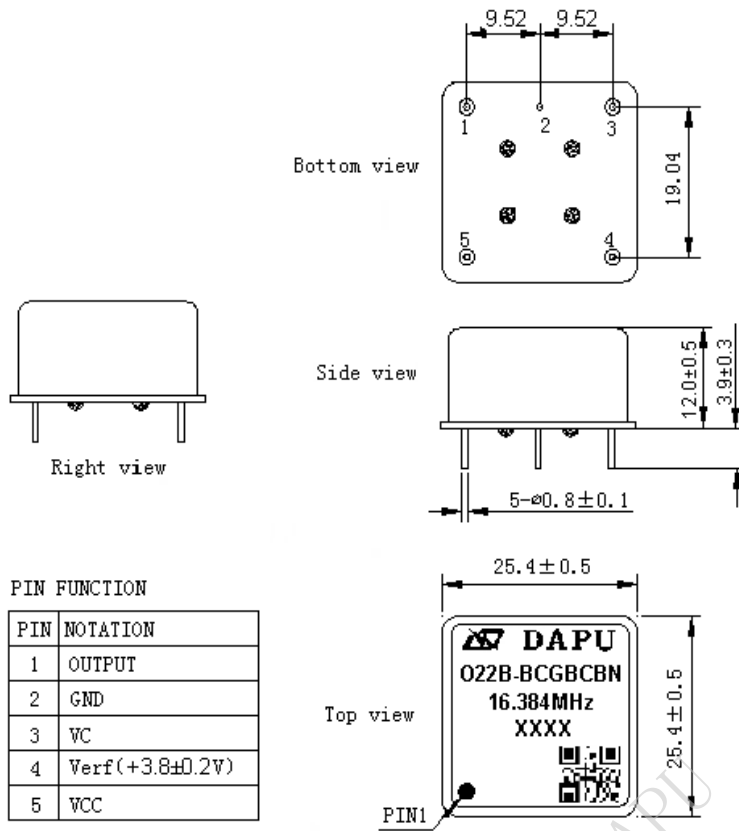
MODEL: O22B-BCGBCBN-16.384MHZ						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	16.384			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			+0.4	V	V <sub>cc</sub> =5.0V, O <sub>load</sub> =15pF
	Output High Voltage	+2.7			V	V <sub>cc</sub> =5.0V, O <sub>load</sub> =15pF
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			6	ns	@25°C
	Load	1-3TTL				
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.01		+0.01	ppm	T <sub>A</sub> varied from -20°C to 70°C, measurement referenced to frequency observed with T <sub>A</sub> = 25°C, V <sub>cc</sub> =5.0V, V <sub>C</sub> =2.5V, O <sub>load</sub> =1-3TTL temperature rise speed less than 2°C per minute.
	Initial Frequency Tolerance	-0.1		+0.1	ppm	Measurement referenced to frequency observed with T <sub>A</sub> =25°C, V <sub>cc</sub> =5.0V, V <sub>C</sub> =2.5V, and after 15 minutes of operation, within 30 days after ex-works
	Frequency Tolerance vs. Supply Voltage	-5		+5	ppb	measurement referenced to frequency observed T <sub>A</sub> =25°C, V <sub>cc</sub> varied from 4.75V to 5.25V, V <sub>C</sub> =2.5V and O <sub>Load</sub> =1-3TTL .
	Frequency Tolerance vs. Load	-5		+5	ppb	5% load change measurement referenced to frequency observed with T <sub>A</sub> =25°C, V <sub>cc</sub> =5.0V, V <sub>C</sub> =2.5V and O <sub>Load</sub> =1-3TTL .
	Short-Term Stability: Allan Variance			0.01	ppb	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 1s , using PN9000 equipment.
	Daily Fluctuation	-1		+1	ppb	
	Aging Tolerance Per Day	-0.5		+0.5	ppb	V <sub>cc</sub> , V <sub>C</sub> , T <sub>A</sub> constant measurement referenced to frequency observed with T <sub>A</sub> =25°C, V <sub>cc</sub> =5.0V, V <sub>C</sub> =2.5V, and after 30 days of operation.
	Aging Tolerance 1Year	-0.05		+0.05	ppm	



Power Supply	Supply Voltage	4.75	+5.0	5.25	V	
	Steady Consumption			300	mA	@25°C
	Warm-Up Time			3	minute	@25°C within $\pm 1.0 \times 10^{-7}$ of final frequency with reference after 24 hours on
	Warm up current			600	mA	
Voltage Control Characteristics	Frequency Tuning Range			-0.5	ppm	$V_C=0.5V$ . measurement referenced to $V_C=2.5V$
		-0.1		+0.1	ppm	$V_C=2.5V$ . measurement referenced to exactly 16.384MHz
		+0.5			ppm	$V_C=4.5V$ . measurement referenced to $V_C=2.5V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			K Ohm	
Phase Noise	Phase Noise		-130		dBc/Hz	100Hz
			-145			1KHz
Environmental Conditions	Operable Temperature	-30		+70	°C	
	Storage Temperature	-40		+85	°C	
	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.				



## 2、 Mechanical Structure(mm)



PIN FUNCTION

PIN	NOTATION
1	OUTPUT
2	GND
3	VC
4	Verf(+3.8±0.2V)
5	VCC

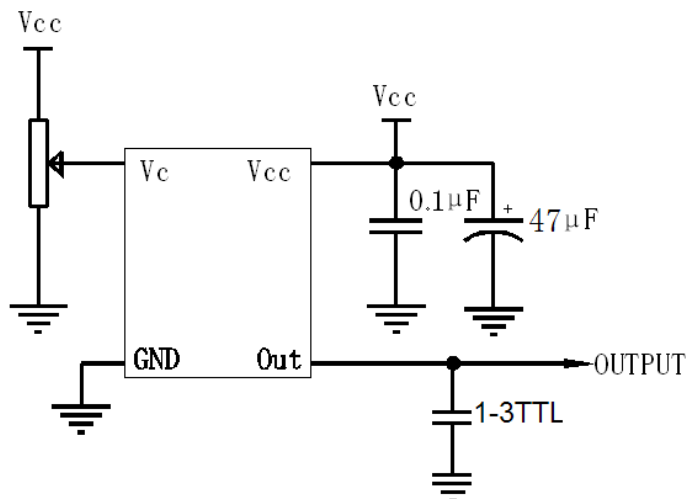
**Note1:** Tolerance ± 0.20mm without mark

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

**Note3:** Referential weight 13.6g

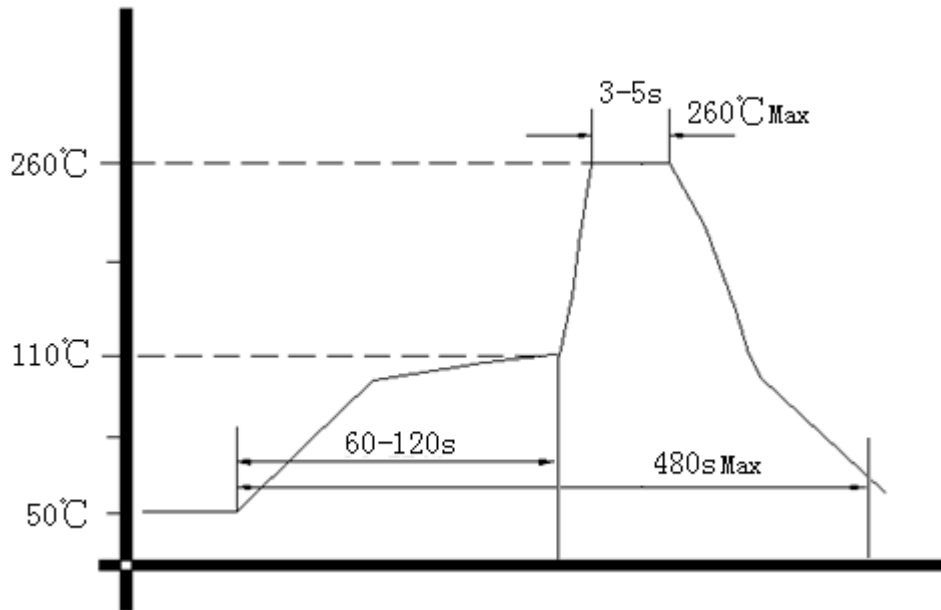
**Note4:** NC is not connect

## 3、 Test Circuit





#### 4、 Wave Soldering Curve (RoHS)



#### 5、 Package: PVC Tube,9pcs (mm)

