

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

# DATASHEET

DAPU P/N:     **O22A-M324-50.00MHz**    

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2020.02.24			

## Guangdong Dapu Telecom Technology Co.,Ltd

Bldg 16,.N.Ind.Zone,SSL Industry Park, Dongguan City, Guangdong Province, China

TEL: 0086-0769-88010888 FAX: 0086-0769-81800098





## 1. Electrical Parameters

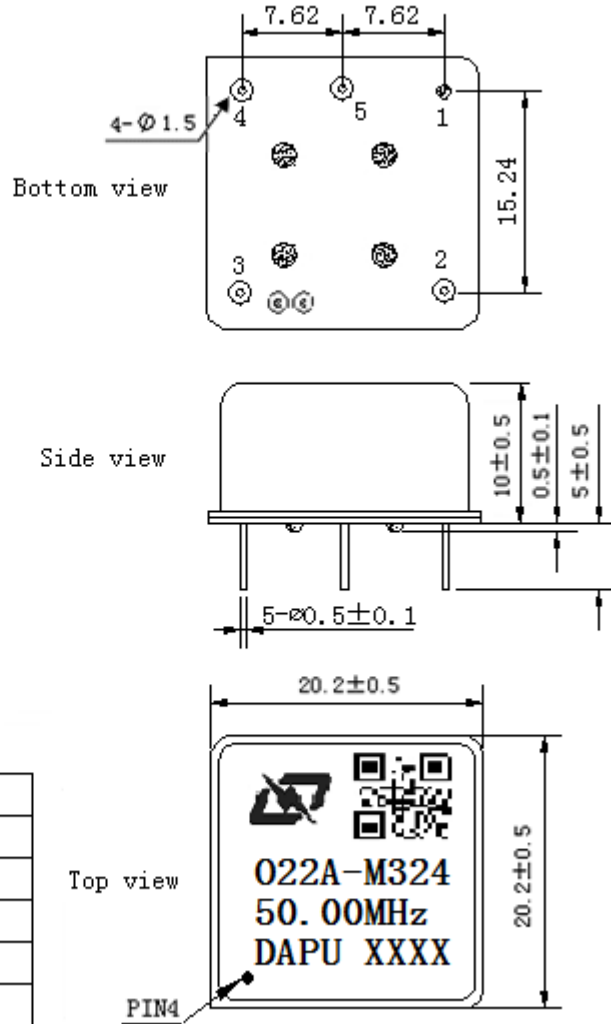
MODEL: O22A-M324-50.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	50.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=5.0V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=5.0V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Load	15			pF	
	Sub Harmonics			-60	dBc	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.5		+0.5	$\times 10^{-9}$	$T_A$ varied from $-40^{\circ}C$ to $85^{\circ}C$ , measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=5.0V, O_{load}=15pF$ , temperature variable speed less than $2^{\circ}C$ per minute.
	Initial Frequency Tolerance	-0.2		+0.2	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=1.65V$ , and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.2		+0.2	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^{\circ}C, V_{cc}$ varied from 4.75V to 5.25V, $V_c=1.65V$ and $O_{Load}=15pF$ .
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=1.65V$ , and $O_{Load}=15pF$ .
	Aging Tolerance Per Day	-0.5		+0.5	$\times 10^{-9}$	$V_{cc}, T_A$ constant measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=1.65V$ , and after 30 days of operation.
	Aging Tolerance Per Year	-0.05		+0.05	$\times 10^{-6}$	
	Holdover	-10		+10	us	Over 8 hours and $5^{\circ}C$ temp jump @ $T_0$



Power Supply	Supply Voltage	4.75	5.0	5.25	V	
	Steady Consumption			400	mA	@25°C
	Warm up current			1200	mA	
	Warm-Up Time			5	minutes	@25°C within $\pm 0.05 \times 10^{-6}$ of final Frequency with reference after 1 hour on.
	Jitter			0.1	ps	RMS@12KHz to 5MHz
Voltage Control Characteristics	Frequency Tuning Range	-0.8		-0.5	$\times 10^{-6}$	$V_c=0V$ . measurement referenced to $V_c=1.65V$
		-0.2		+0.2	$\times 10^{-6}$	$V_c=1.65V$ . measurement referenced to exactly 50.00MHz
		+0.5		+0.8	$\times 10^{-6}$	$V_c=3.3V$ . measurement referenced to $V_c=1.65V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			K $\Omega$	
Phase Noise	Phase Noise		-110	-100	dBc/Hz	10Hz
			-130	-120		100Hz
			-140	-135		1KHz
			-150	-145		10KHz
			-155	-150		100KHz
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; 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	GND	GND
2	OUTPUT	RF Output
3	VCC	Supply Voltage
4	VC	Control Voltage
5	NC	Not Connect

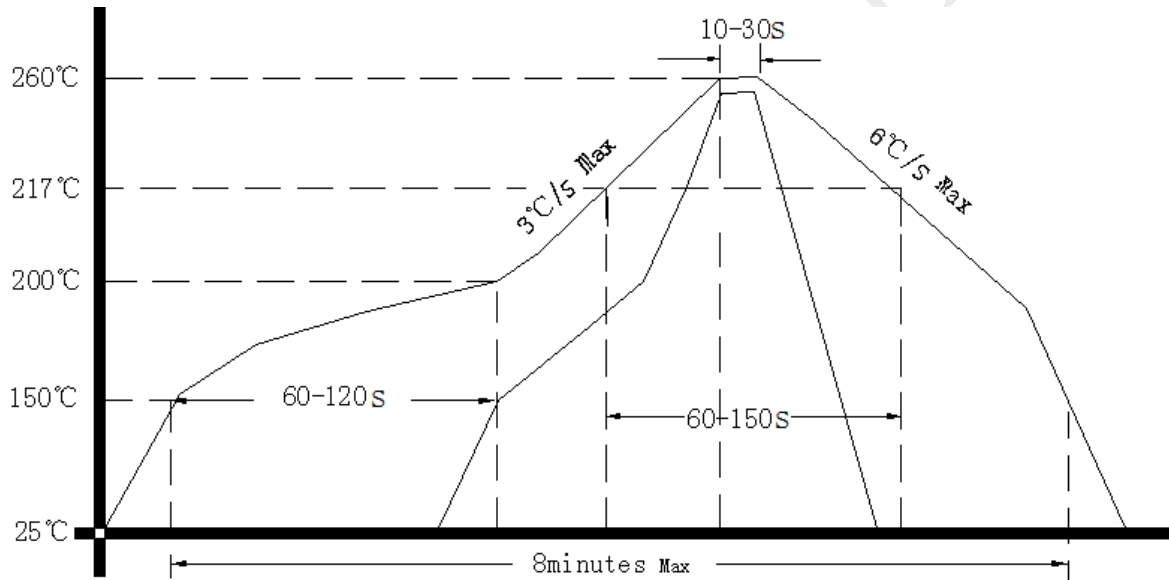
- Note1:** Tolerance ±0.20mm without mark
- Note2:** The first two xx representative: week  
After two xx representative: year
- Note3:** Referential weight 8.0g
- Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



Note: passing through reflow upside down is not supported

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

