

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

# DATASHEET

DAPU P/N:     **O22B-T446-100.00MHz**    

Customer P/N: \_\_\_\_\_

DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2020.03.02			

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**Table of amendment**

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2012.06.25
1.1	“Steady Consumption” and “Warm up current” and “Frequency Tolerance vs. Operating Temperature Range- Test Condition” change	<i>Amway</i>	2013.08.13
1.2	“Phase Noise” change	<i>Amway</i>	2013.09.24
1.4	“Cut-off Frequency” add “Mechanical Structure” change	<i>Amway</i>	2014.08.26
1.5	Modified the 1 <sup>st</sup> page “Full Package Storage” added “Frequency Tuning Range” and “Mechanical Structure” changed	<i>Amway</i>	2015.11.11
1.6	“Warm-Up Time” added “Frequency Tuning Range” changed	<i>Amway</i>	2016.01.12
1.7	The “Mechanical Structure” “ESD Level” changed	<i>Amway</i>	2020.03.02



## 1. Electrical Parameters

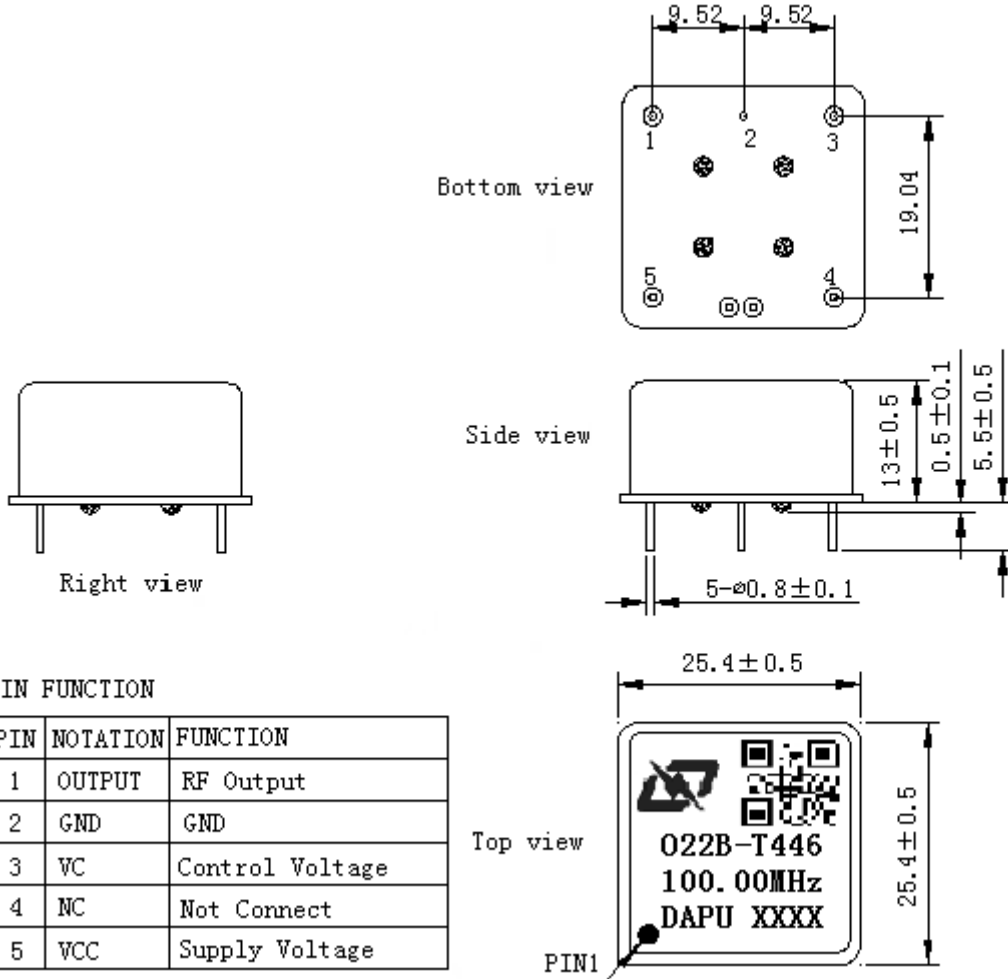
MODEL: O22B-T446-100.00MHZ						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	100.00			MHz	
	Output Waveform	Sine wave				
	Level	7			dBm	
	Load	50			$\Omega$	
	Harmonics Suppression			-30	dBc	
	Spurious Suppression			-75	dBc	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.05		+0.05	$\times 10^{-6}$	$T_A$ varied from $-40^\circ\text{C}$ to $80^\circ\text{C}$ , measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=2.5\text{V}$ , $O_{\text{load}}=50\Omega$ , temperature rise speed less than $2^\circ\text{C}$ per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=2.5\text{V}$ and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. supply voltage	-0.05		+0.05	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ\text{C}$ , $V_{\text{cc}}$ varied from 11.4 to 12.6V, $V_c=2.5\text{V}$ , $O_{\text{load}}=50\Omega$ .
	Frequency Tolerance vs. Load	-0.05		+0.05	$\times 10^{-6}$	5% Load Change Measurement referenced to frequency observed with $T_A=25^\circ\text{C}$ , $V_{\text{cc}}=12.0\text{V}$ , $V_c=2.5\text{V}$ , $O_{\text{load}}=50\Omega$ .
	Short-Term Stability: Allan Variance			0.01	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to $25^\circ\text{C}$ ; 1s, using PN9000 equipment.
	Aging Tolerance per day	-1		+1	$\times 10^{-9}$	$V_{\text{cc}}, V_c, T_A$ constant Measurement referenced to frequency observed with
	Aging Tolerance 1 Year	-0.1		+0.1	$\times 10^{-6}$	$T_A=25^\circ\text{C}, V_{\text{cc}}=12.0\text{V}, V_c=2.5\text{V}, O_{\text{load}}=50\Omega$ and after 30 days of operation.
Power Supply	Supply Voltage	11.4	12.0	12.6	V	
	Steady Consumption			150	mA	@ $25^\circ\text{C}$
	Warm up current			370	mA	
	Warm-Up Time			15	minutes	@ $25^\circ\text{C}$ within $\pm 0.05 \times 10^{-6}$ of final frequency with reference after 1 hour on.



Voltage Control Characteristics	Frequency Tuning Range			-2	$\times 10^{-6}$	$V_c=0V$ . measurement referenced to $V_c=2.5V$ .
		-0.1		+0.1	$\times 10^{-6}$	$V_c=2.5V$ . measurement referenced to exactly 100.00MHz.
		+2			$\times 10^{-6}$	$V_c=5.0V$ . measurement referenced to $V_c=2.5V$ .
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K $\Omega$
	Cut-off Frequency	50				KHz 3dB
Phase Noise	Phase Noise @25°C		-90	-85	dBc/Hz	10Hz
			-130	-125		100Hz
			-155	-150		1KHz
			-165	-160		10KHz
			-168	-163		100KHz
			-170	-165		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; ANSI/ESDA/JEDEC JESD22-A115C.				
	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	OUTPUT	RF Output
2	GND	GND
3	VC	Control Voltage
4	NC	Not Connect
5	VCC	Supply Voltage

**Note1:** Tolerance ±0.2mm without mark

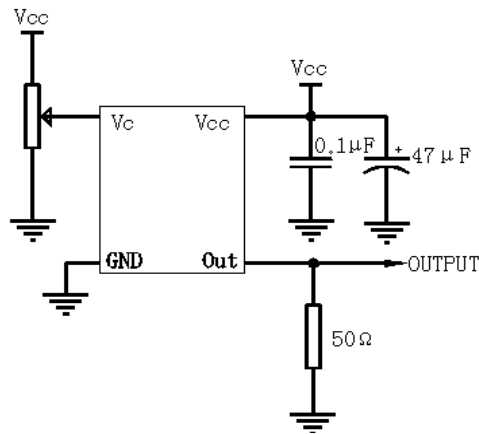
**Note2:** The first two xx representative: week  
After two xx representative: year

**Note3:** Referential Weight 13.6g

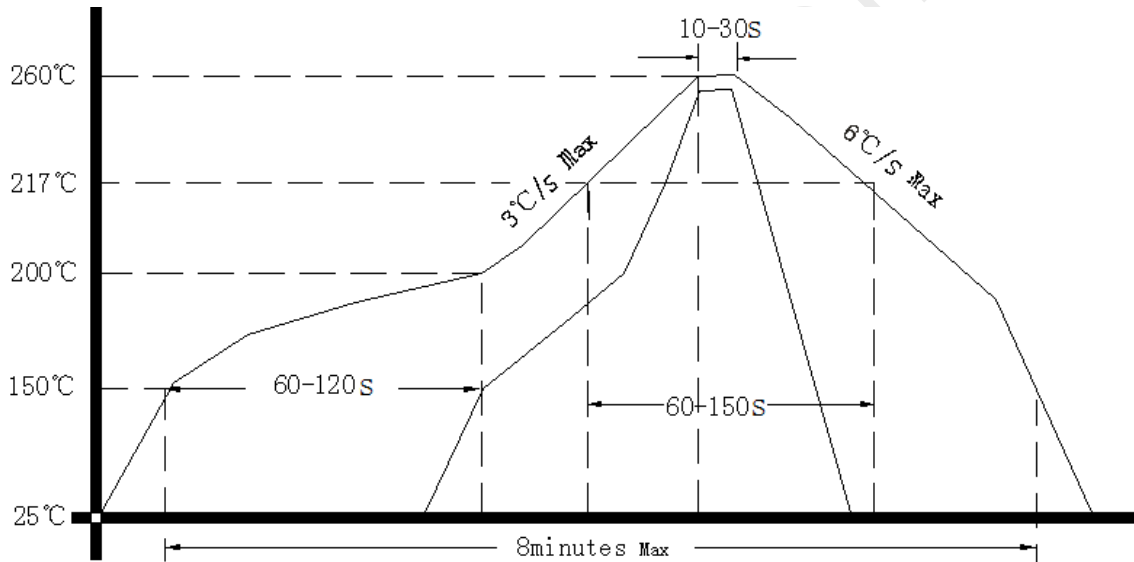
**Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package (mm)

