

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

# DATASHEET

Standard:           **O22A-J446-10.00MHz**          

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

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2020.03.25			

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### Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2020.03.25



## 1. Electrical Parameters

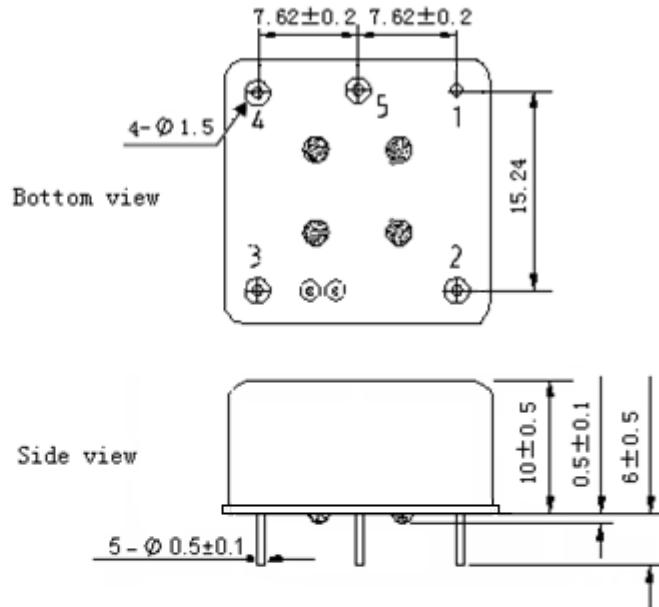
MODEL: O22A-J446-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.5	V	$V_{cc}=12.0V, O_{load}=15pF$
	Output High Voltage	3.5			V	$V_{cc}=12.0V, O_{load}=15pF$
	Duty Cycle	40	50	55	%	@50%
	Spurious Suppression			-70	dBc	
	Rise / Fall Time (10%~90%)			5	ns	
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.01		+0.01	$\times 10^{-6}$	$T_A$ varied from $-40^{\circ}C$ to $85^{\circ}C$ , measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=12.0V, V_c=2.5V, O_{load}=50\Omega$ , temperature variable speed less than $2^{\circ}C$ per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=12.0V, V_c=2.5V$ and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-5		+5	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^{\circ}C, V_{cc}$ varied from 11.4V to 12.6V, $V_c=2.5V, O_{load}=50\Omega$ .
	Frequency Tolerance vs. Load	-5		+5	$\times 10^{-9}$	5% Load Change Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=12.0V, V_c=2.5V, O_{load}=50\Omega$ .
	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 $25^{\circ}C$ ; 1s.
	Aging Tolerance Per Day	-1		+1	$\times 10^{-9}$	$V_{cc}, V_c, T_A$ constant Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=12.0V, V_c=2.5V, O_{load}=50\Omega$ and after 30 days of operation.
	Aging Tolerance 1 Year	-0.1		+0.1	$\times 10^{-6}$	



Power Supply	Supply Voltage	11.4	12.0	12.6	V	
	Steady Consumption			180	mA	@25°C
	Warm up current			360	mA	
	Warm-Up Time			10	minutes	@25°C within $\pm 0.1 \times 10^{-6}$ of final frequency with reference after 1 hour on.
Voltage Control Characteristics	Frequency Tuning Range			-0.5	$\times 10^{-6}$	$V_c=0V$ . measurement referenced to $V_c=2.5V$ .
		-0.1		+0.1	$\times 10^{-6}$	$V_c=2.5V$ . measurement referenced to exactly 10.00MHz.
		+0.5			$\times 10^{-6}$	$V_c=5.0V$ . measurement referenced to $V_c=2.5V$ .
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			K $\Omega$	
Phase Noise	Phase Noise		-125		dBc/Hz	10Hz
			-143			100Hz
			-150			1KHz
			-158			10KHz
			-160			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; JEDEC JESD22-A115C.				
	Moisture Sensitivity Level	Not humidity sensitive.				
	Vibration	Frequency range: 20Hz~2000Hz, acceleration : 6g , ASD:0.04g <sup>2</sup> /Hz one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z), GJB 150.16A-2009				
Shock	100g; 6ms; half sine wave (3 times for each 3 directions X ,Y , Z ),GJB 360B-2009					
Full Package Storage	Relative humidity (%)	20%~70%				
	Temperature (°C)	-10~35°C				

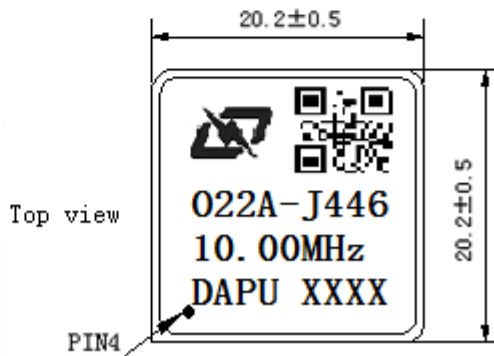


## 2. Mechanical Structure (mm)



PIN FUNCTION

PIN	NOTATION	FUNCTION
1	GND	GND
2	OUTPUT	RF Output
3	VCC	Supply Voltage
4	VC	Control Voltage
5	VREF	Reference Voltage



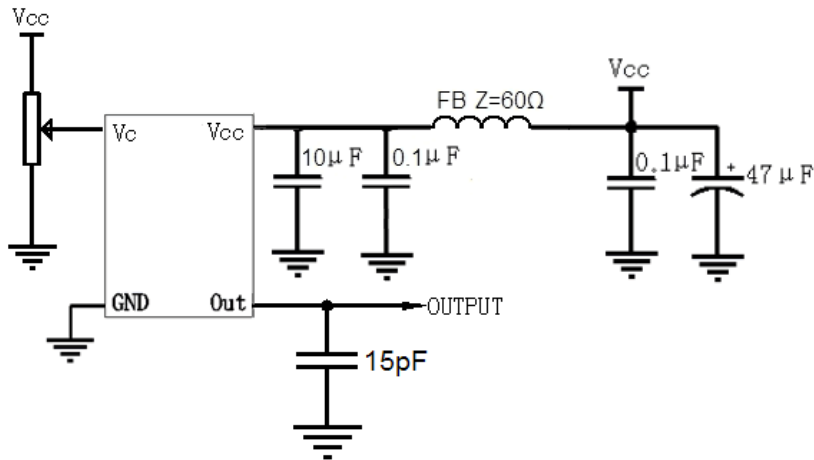
**Note1:** Tolerance  $\pm 0.2$ mm without mark

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

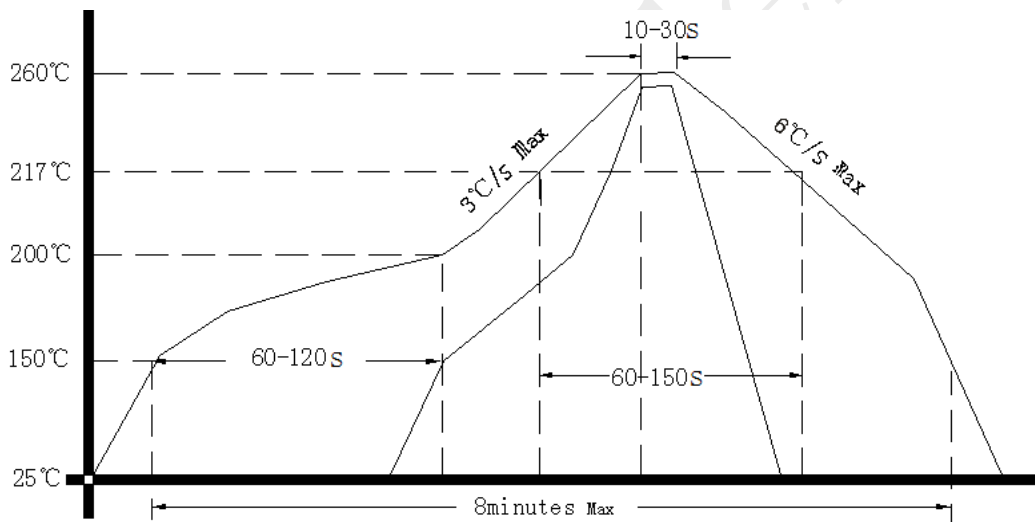
**Note3:** Referential weight 8.0g



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package (mm)

