

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

# DATASHEET

Standard:     **O11E-R321-19.20MHz**    

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

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2018.07.30			

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### Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2018.07.30

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## 1. Electrical Parameters

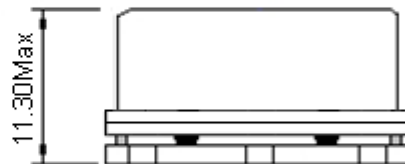
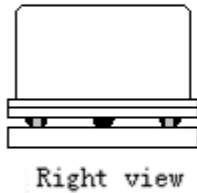
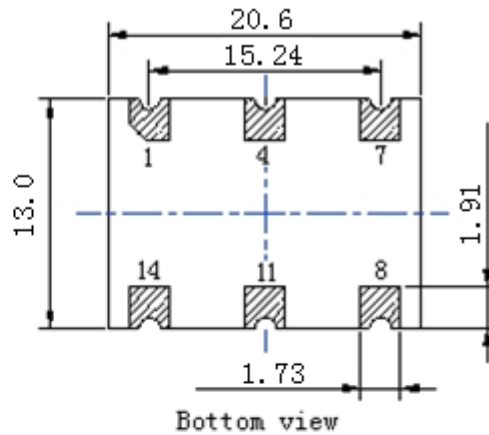
MODEL: O11E-R321-19.20MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	19.20			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=5.0V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=5.0V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			8	ns	
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-5.0		+5.0	$\times 10^{-9}$	$T_A$ varied from $-20^{\circ}C$ to $70^{\circ}C$ , measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=5.0V, V_c=1.65V, O_{load}=15pF$ , 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 $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=1.65V$ , and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Accuracy after Reflow	-0.3		+0.3	$\times 10^{-6}$	Place for 48 Hours after reflow, then test the frequency after 15mins power on ref to nominal frequency @ $25^{\circ}C$ .
	Frequency Tolerance vs. Supply Voltage	-2.0		+2.0	$\times 10^{-9}$	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	-2.0		+2.0	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=1.65V$ , and $O_{Load}=15pF$ .
	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, using PN9000 equipment.
	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 1 Year	-0.05		+0.05	$\times 10^{-6}$	
Power Supply	Supply Voltage	4.75	5.0	5.25	V	
	Steady Consumption			200	mA	@ $25^{\circ}C$
	Warm up current			600	mA	



Voltage Control Characteristics	Frequency Tuning Range	-0.8		-0.4	$\times 10^{-6}$	$V_c = 0\text{ V}$ . measurement referenced to $V_c = 1.65\text{ V}$
		-0.1		+0.1	$\times 10^{-6}$	$V_c = 1.65\text{ V}$ . measurement referenced to exactly 19.20MHz
		+0.4		+0.8	$\times 10^{-6}$	$V_c = 3.3\text{ V}$ . measurement referenced to $V_c = 1.65\text{ V}$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K $\Omega$
Phase Noise	Phase Noise		-115	-105	dBc/Hz	10Hz
			-140	-130		100Hz
			-145	-140		1KHz
			-150	-145		10KHz
Environmental Conditions	Operable Temperature	-20		+70	$^{\circ}\text{C}$	
	Storage Temperature	-55		+105	$^{\circ}\text{C}$	
	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	Level 3.				
	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 ( $^{\circ}\text{C}$ )	-10~35 $^{\circ}\text{C}$				

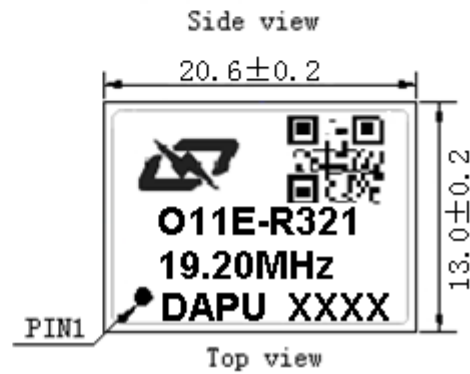


## 2. Mechanical Structure (mm)



### PIN FUNCTION

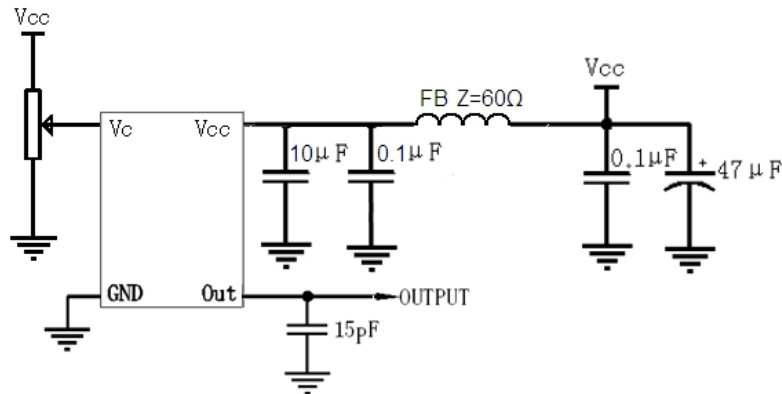
PIN	NOTATION	FUNCTION
1	VC	Control Voltage
4	NC	Not Connect
7	GND	GND
8	OUTPUT	RF Output
11	NC	Not Connect
14	VCC	Supply Voltage



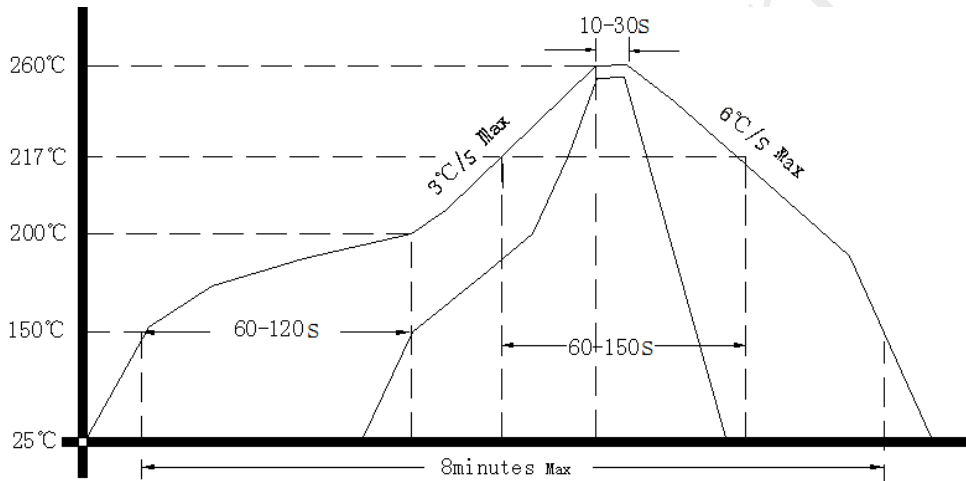
- Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark
- Note2:** The first two xx representative: week  
After two xx representative: year
- Note3:** Referential weight 6.0g
- Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



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

