Travelling Merchant:_____

DATASHEET

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

P/N: _____

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

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	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℃ to 70℃, 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℃per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, 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℃.
	Frequency Tolerance vs. Supply Voltage	-2.0		+2.0	$\times 10^{-9}$	measurement referenced to frequency observed T_A=25℃, V_{cc} varied from4.75V 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℃, 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℃; 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℃,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℃
	Warm up current			600	mA	

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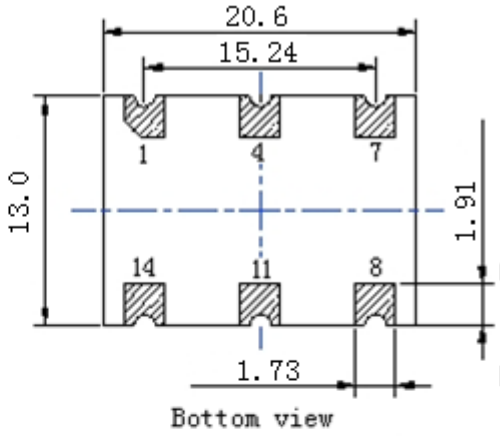
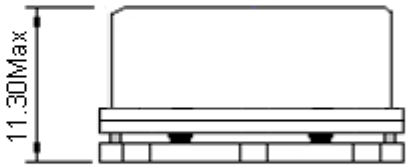
Voltage Control Characteristics	Frequency Tuning Range	-0.8		-0.4	$\times 10^{-6}$	V_c= 0 V. measurement referenced to V_c=1.65V
		-0.1		+0.1	$\times 10^{-6}$	V_c=1.65V. measurement referenced to exactly 19.20MHz
		+0.4		+0.8	$\times 10^{-6}$	V_c=3.3V. measurement referenced to V_c=1.65V
	Linearity	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

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

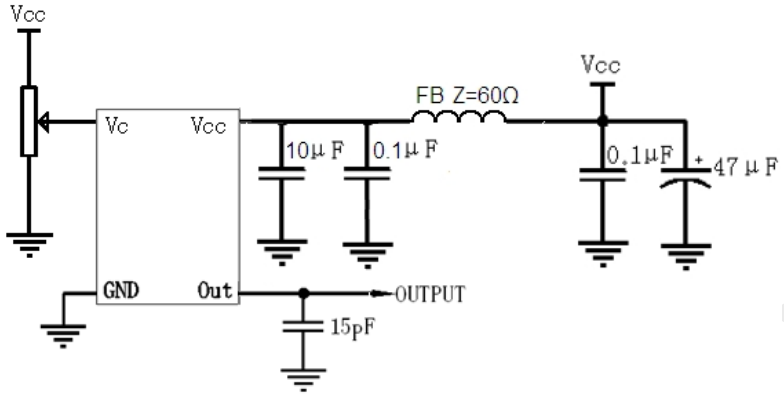
Note1: Tolerance ± 0.2mm without mark

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

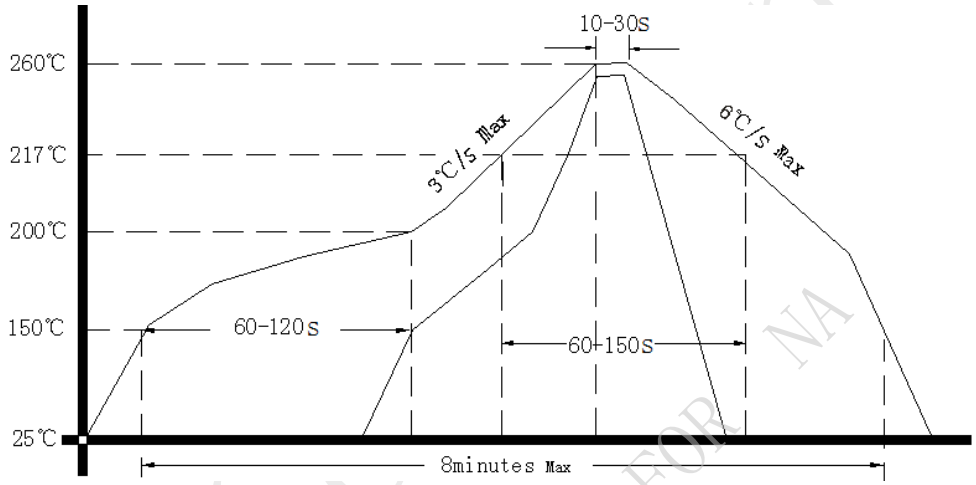
Note3: Referential weight 6.0g

Note4: NC is not connect

3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)