

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

# DATASHEET

Standard: M11A-C312-13.50MHz-G015

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

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.10.24			

## Guangdong Dapu Telecom Technology Co.,Ltd

Building 5, No.24, Industrial East Road, Songshanhu Park, Dongguan, Guangdong, P.R. China

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





## 1. Electrical Parameters

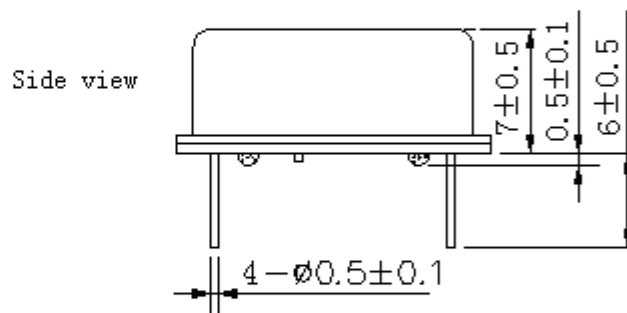
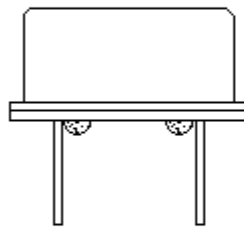
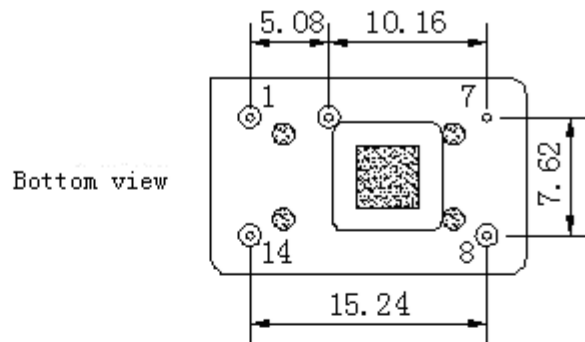
MODEL: M11A-C312-13.50MHz-G015						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	13.50			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=3.3V, O_{load}=15pF$
	Output High Voltage	2.4			V	$V_{cc}=3.3V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			10	ns	@25°C
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.05		+0.05	$\times 10^{-6}$	$T_A$ varied from $-10^\circ C$ to $70^\circ C$ , measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=3.3V, V_c=1.5V, O_{load}=15pF$ , temperature variable speed less than $2^\circ C$ per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V, V_c=1.5V$ , within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.02		+0.02	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ C, V_{cc}$ varied from 3.135V to 3.465V, $V_c=1.5V$ and $O_{Load}=15pF$ .
	Frequency Tolerance vs. Load	-0.01		+0.01	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=3.3V, V_c=1.5V, O_{Load}=15pF$ .
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	$T_A=25^\circ C, V_{cc}=3.3V, V_c=1.5V$ and after 1h of operation.
	Aging Tolerance 10 Years	-3.5		+3.5	$\times 10^{-6}$	
Power Supply	Current Consumption			15	mA	@25°C, $V_{cc}=3.3V, V_c=1.5V, O_{load}=15pF$ .
	Supply Voltage	3.135	3.3	3.465	V	



Voltage Control Characteristics	Frequency Tuning Range	-10		-6	$\times 10^{-6}$	$V_c=0V$ . measurement referenced to $V_c=1.5V$
		-1		+1	$\times 10^{-6}$	$V_c=1.5V$ . measurement referenced to exactly 13.50MHz
		+6		+10	$\times 10^{-6}$	$V_c=3.0V$ . measurement referenced to $V_c=1.5V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K $\Omega$
Phase Noise	Phase Noise @25°C		-90	-85	dBc/Hz	10Hz
			-120	-115		100Hz
			-140	-135		1KHz
			-153	-148		10KHz
Environmental Conditions	Operable Temperature	-10		+70	°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	Test Condition: 0.75mm ;acceleration:10g;10Hz~2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X , Y , Z) .IEC 68-2-06 Test Fc.				
Shock	100g; 6ms; half sine wave (3 times for each 3 directions X , Y , Z ),IEC 68-2-27 Test Ea/Severity 50A.					

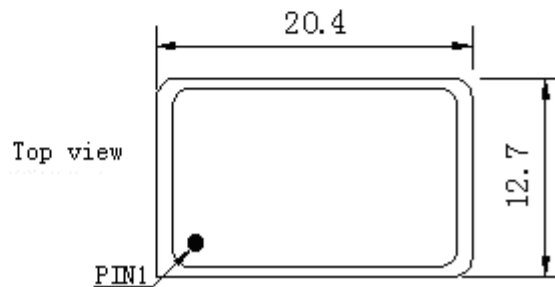


## 2. Mechanical Structure(mm)



### PIN FUNCTION

PIN	NOTATION	FUNCTION
1	VC	Control Voltage
7	GND	GND
8	OUTPUT	RF Output
14	VCC	Supply Voltage

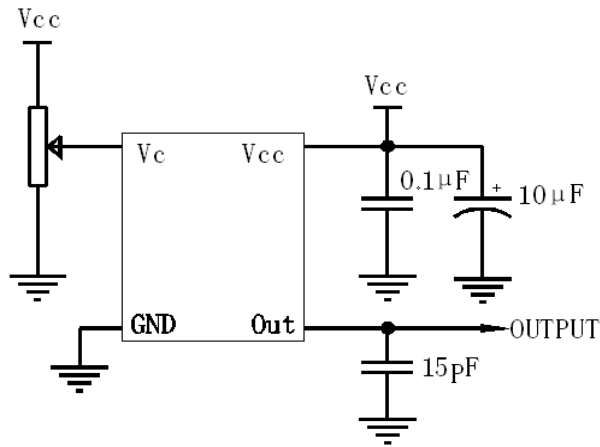


**Note1:** Tolerance  $\pm 0.2\text{mm}$  without mark

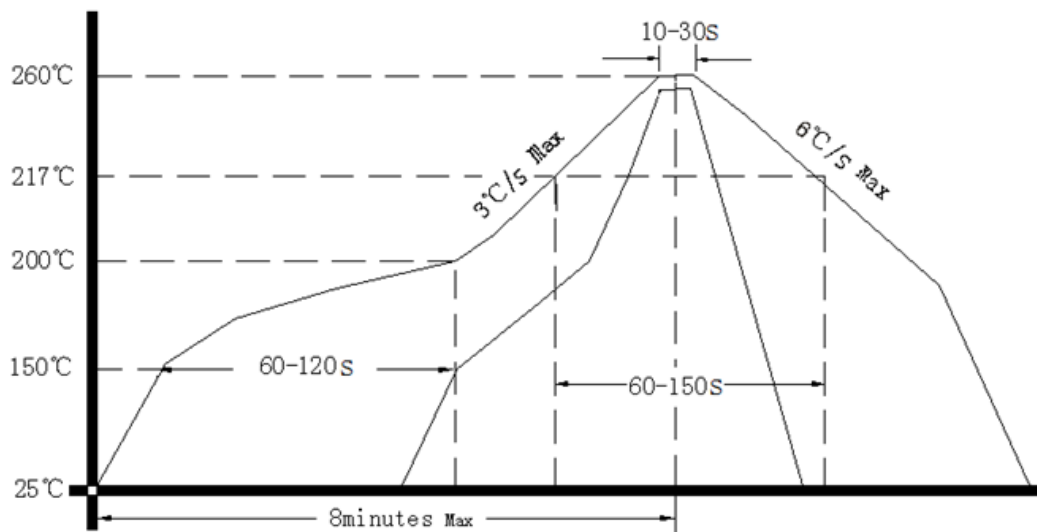
**Note2:** Referential Weight 4.2g



### 3. Test circuit



### 4. Wave Soldering Curve (RoHS)



### 5. Package: PVC Tube,16pcs (mm)

