

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

# DATASHEET

DAPU P/N: M21B-ESBD-10.00MHz

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

DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2017.09.07			

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## 1. Electrical Parameters

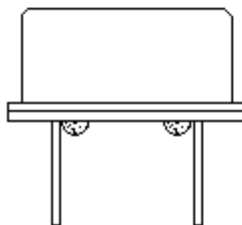
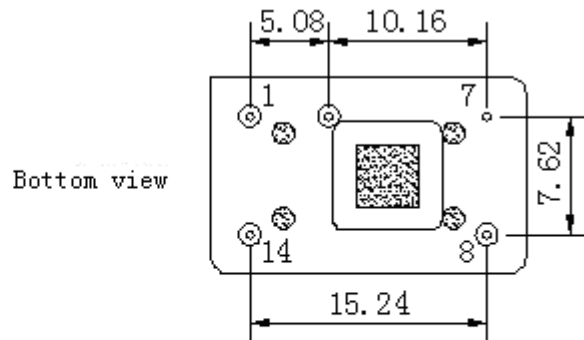
MODEL: M21B-ESBD-10.00MHz						
Item	Parameters	Electrical Spec			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	Sine Wave				
	Level	5.0			dBm	
	Load	50			$\Omega$	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.1		+0.1	$\times 10^{-6}$	$T_A$ varied from $-20^{\circ}\text{C}$ to $70^{\circ}\text{C}$ , measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=5.0\text{V}$ , $V_c=2.5\text{V}$ , $O_{load}=50\Omega$ , temperature variable speed less than $2^{\circ}\text{C}$ per minute.
	Initial Frequency Tolerance	-1.0		+1.0	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=5.0\text{V}$ , $V_c=2.5\text{V}$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.05		+0.05	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^{\circ}\text{C}$ , $V_{cc}$ varied from 4.75V to 5.25V, $V_c=2.5\text{V}$ and $O_{Load}=50\Omega$ .
	Frequency Tolerance vs. Load	-0.05		+0.05	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{cc}=5.0\text{V}$ , $V_c=2.5\text{V}$ , $O_{Load}=50\Omega$ .
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^{\circ}\text{C}$ , $V_{cc}=5.0\text{V}$ , $V_c=2.5\text{V}$ and after 1h of operation.
	Aging Tolerance 1 Year	-1.0		+1.0	$\times 10^{-6}$	
Power Supply	Current Consumption		10		mA	@ $25^{\circ}\text{C}$ , $V_{cc}=5.0\text{V}$ , $V_c=2.5\text{V}$ , $O_{load}=50\Omega$ .
	Supply Voltage	4.75	5.0	5.25	V	
Voltage Control Characteristics	Frequency Tuning Range			-5.0	$\times 10^{-6}$	$V_c=0\text{V}$ . measurement referenced to $V_c=2.5\text{V}$
		-1.0		+1.0	$\times 10^{-6}$	$V_c=2.5\text{V}$ . measurement referenced to exactly 10.00MHz
		+5.0			$\times 10^{-6}$	$V_c=5.0\text{V}$ . measurement referenced to $V_c=2.5\text{V}$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K $\Omega$



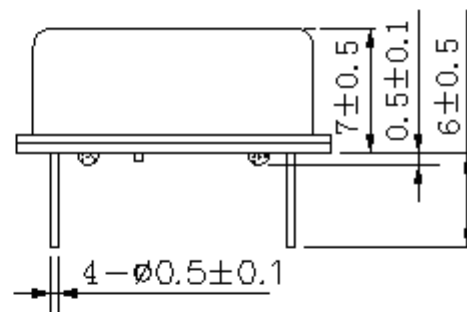
Phase Noise	Phase Noise		-135	-130	dBc/Hz	1KHz
			-140	-135		10KHz
Environmental Conditions	Operable Temperature	-20		+70	°C	
	Storage Temperature	-40		+85	°C	
	ESD Level	Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; ANSI/ESDA/JEDEC JS-001-2010.				
	Moisture Sensitivity Level	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 68-2009 Test Fc.				
Shock	100g; 6ms; half sine wave (3 times for each 3 directions X ,Y, Z ),IEC 68-2009 Test Ea/Severity 50A.					
Full Package Storage	Relative humidity (%)	20%~70%				
	Temperature (°C)	-10~35°C				



## 2. Mechanical Structure(mm)



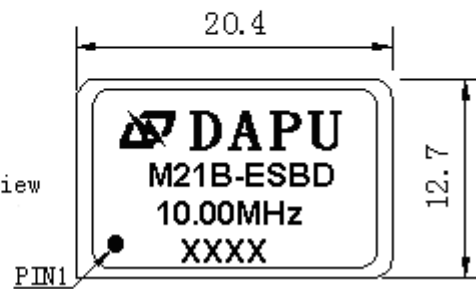
Side view



PIN FUNCTION

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

Top view



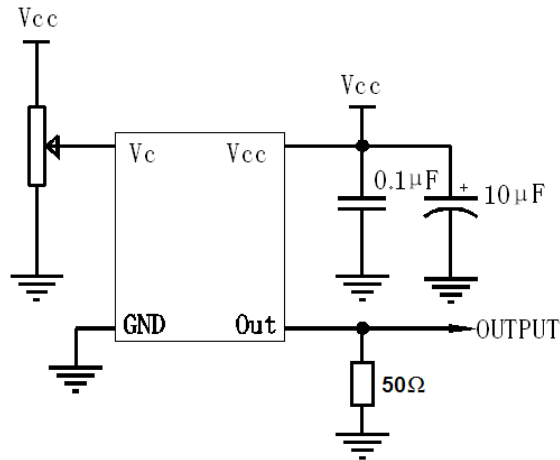
**Note1:** Tolerance  $\pm 0.20\text{mm}$  without mark

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

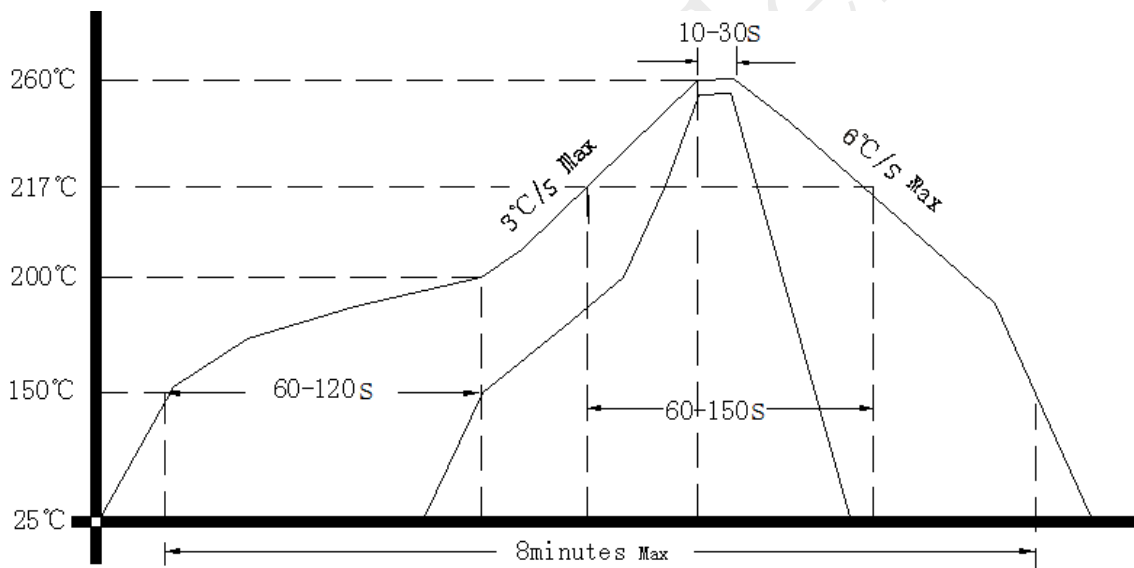
**Note3:** Referential weight 4.2g



### 3. Test circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package: PVC Tube,10pcs (mm)

