

Customer Code : _____

DATASHEET

DAPU P/N: 023B-0345-16.384MHz

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2019.03.18			

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1. Electrical Parameters

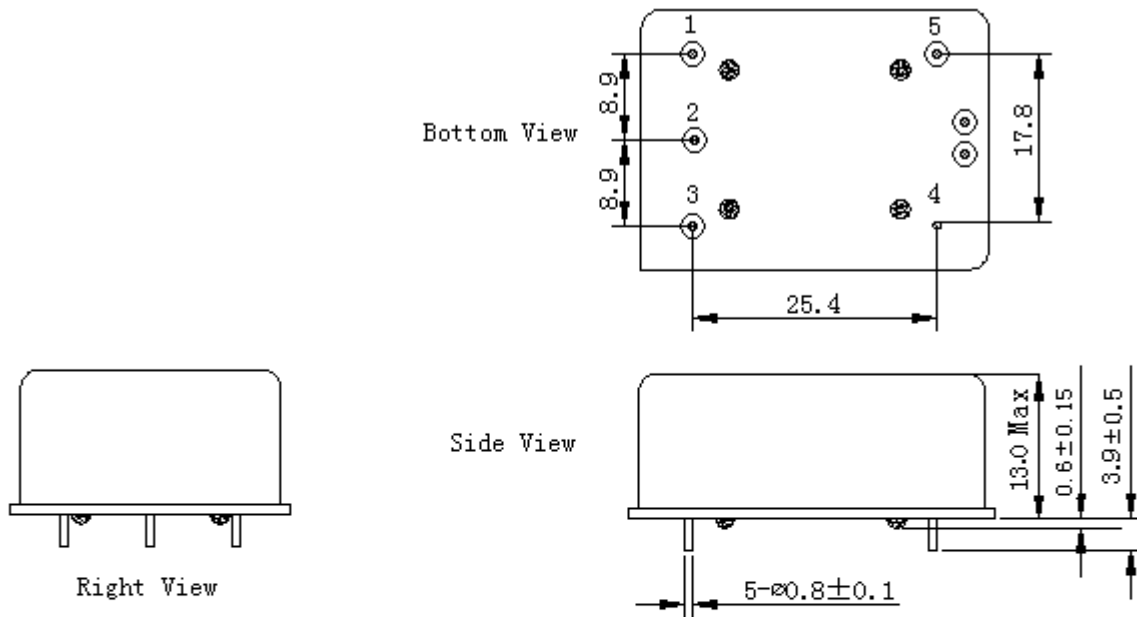
MODEL: O23B-O345-16.384MHZ						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	16.384			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=12.0V, O_{load}=15pF$
	Output High Voltage	3.5			V	$V_{cc}=12.0V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Spurious Suppression			-70	dBc	
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-3		+3	$\times 10^{-9}$	T_A varied from $-40^{\circ}C$ to $75^{\circ}C$, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=12.0V, V_c=2.5V, O_{load}=15pF$, temperature variable speed less than $2^{\circ}C$ per minute.
	Initial Frequency Accuracy	-0.1		+0.1	$\times 10^{-6}$	Power on within 5 minutes, $V_{cc}=12.0V, V_c=2.5V$
	Initial Frequency Tolerance	-0.01		0.01	$\times 10^{-6}$	Frequency drift after power on 10min against 1hour.
	Frequency Tolerance vs. Supply Voltage	-0.5		+0.5	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^{\circ}C, V_{cc}$ varied from 11.4V to 12.6V, $V_c=2.5V$ and $O_{Load}=15pF$.
	Frequency Tolerance vs. Load	-0.5		+0.5	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=12.0V, V_c=2.5V$, and $O_{Load}=15pF$.
	Retrace	-5		+5	$\times 10^{-9}$	After 24 hour off at $25^{\circ}C$ 2 hours power on
	Aging Tolerance Per Day	-0.07		+0.07	$\times 10^{-9}$	V_{cc}, V_c, T_A constant measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=12.0V, V_c=2.5V$, and after 30 days of operation.
	Aging Tolerance Per month	-2.0		+2.0	$\times 10^{-9}$	
	Aging Tolerance The first year	-12.0		+12.0	$\times 10^{-9}$	



Power Supply	Supply Voltage	11.4	12.0	12.6	V	
	Steady Consumption			150	mA	@25°C
	Warm up current			330	mA	
	Refer Voltage	4.5	5.0	5.5	V	
Voltage Control Characteristics	Frequency Tuning Range			-0.25	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=2.5V$
		-0.01		+0.01	$\times 10^{-6}$	$V_c=2.5V$. measurement referenced to exactly 16.384MHz
		+0.25			$\times 10^{-6}$	$V_c=5.0V$. measurement referenced to $V_c=2.5V$
	Linearity			10	%	
	Slope	Positive				
	Modulation Bandwidth	10			KHz	
	Input Impedance	100			K Ω	
Phase Noise	Phase Noise		-120	-115	dBc/Hz	10Hz
			-135	-130		100Hz
			-150	-145		1KHz
			-155	-150		10KHz
Environmental Conditions	Operating Temperature	-40		+75	°C	
	Storage Temperature	-55		+90	°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~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 (°C)	-10~35°C				

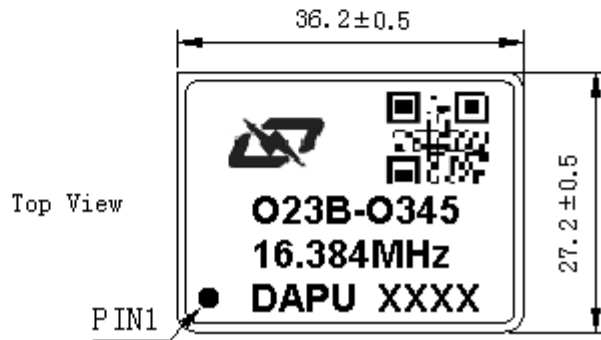


2. Mechanical Structure (mm)



PIN FUNCTION

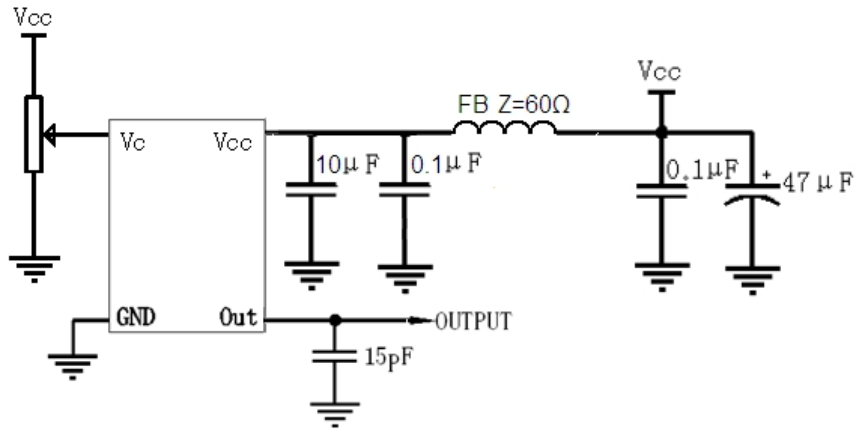
PIN	NOTATION	FUNCTION
1	VCC	Supply Voltage
2	VREF	Vref=5.0V
3	VC	Control Voltage
4	GND	GND
5	OUTPUT	RF Output



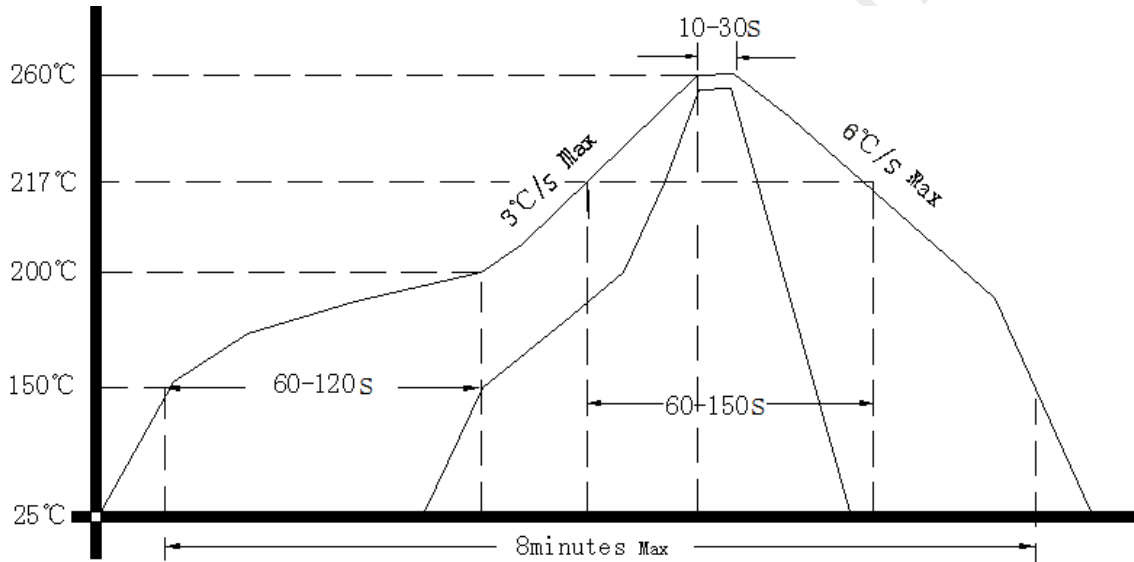
- Note1:** Tolerance ±0.20mm without mark
- Note2:** The first two xx representative: week
After two xx representative: year
- Note3:** Referential weight 20.7g
- Note4:** NC is not connect



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package (mm)

