

Customer Code: _____

DATASHEET

DAPU P/N: **O23B-M345-10.00MHz**

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.07.22			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2024.07.22



1. Electrical Parameters

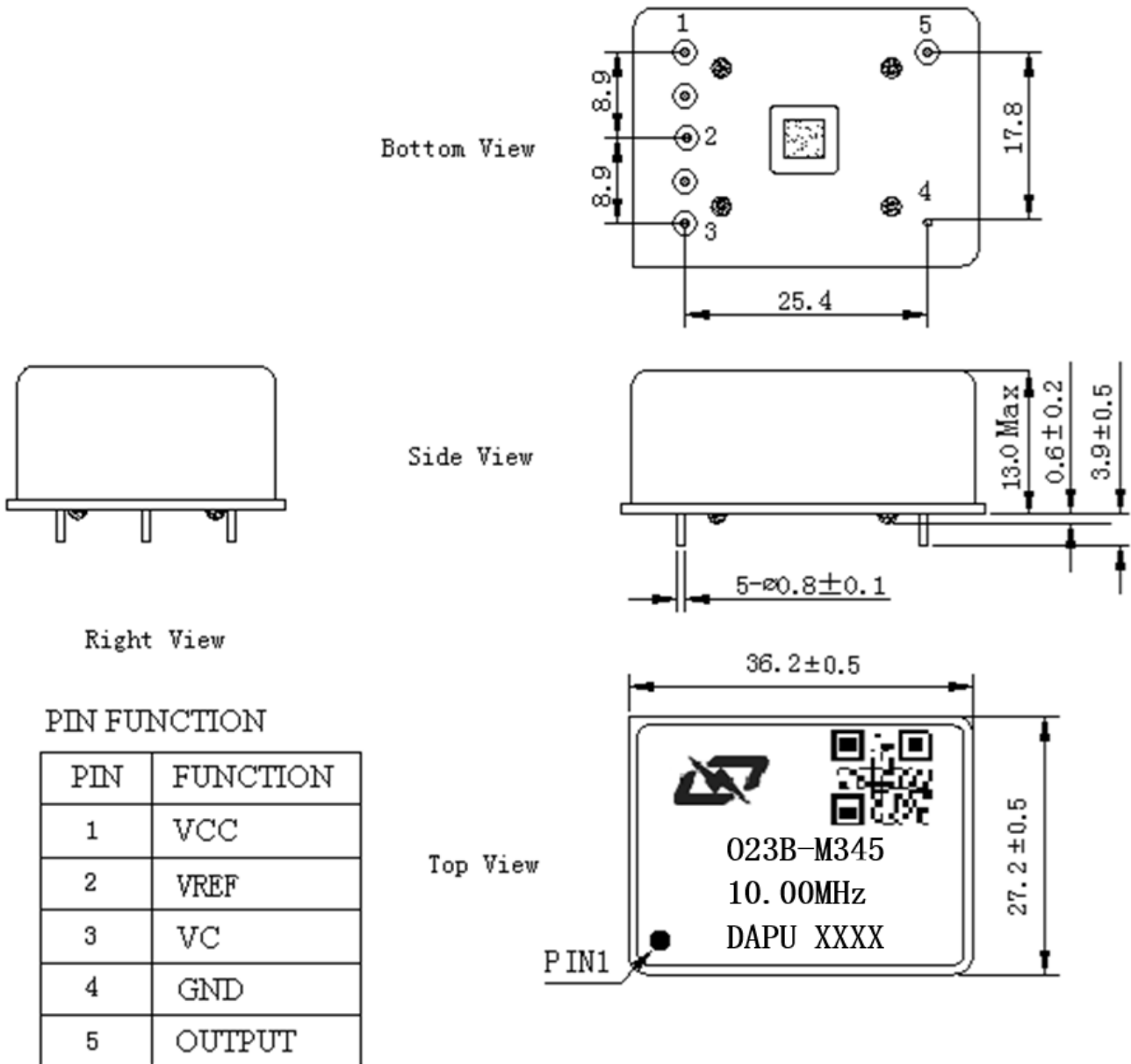
MODEL: O23B-M345-10.00MHz							
Item	Description	Parameters			Unit	Test Condition	
		Min.	Typ.	Max.			
Output	Frequency	10.00			MHz		
	Output Waveform	HCMOS					
	Output Low Voltage			0.4	V	$V_{cc}=12V, O_{load}=15pF$	
	Output High Voltage	2.4			V	$V_{cc}=12V, O_{load}=15pF$	
	Duty Cycle	45	50	55	%	@50%	
	Rise / Fall Time (10%~90%)			10	ns		
	Load	15			pF		
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.5		+0.5	$\times 10^{-9}$	T_A varied from $-40^{\circ}C$ to $85^{\circ}C$, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2, V_{cc}=12V, O_{load}=15pF$, 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 $T_A=25^{\circ}C, V_{cc}=12V, V_c=1.4V$, and after 30 minutes of operation, at time of shipment.	
	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, $V_c=1.4V, O_{load}=15pF$	
	Frequency Tolerance vs. Load	-0.5		+0.5	$\times 10^{-9}$	5% Load Change Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=12V, V_c=1.4V, O_{load}=15pF$.	
	Short-Term Stability: Allan Variance				7	$\times 10^{-12}$	Temperature stability, no EMI/EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$; 1s.
					10	$\times 10^{-12}$	Temperature stability, no EMI/EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$; 10s.
	Aging Tolerance Per Day	-0.3		+0.3	$\times 10^{-9}$	V_{cc}, V_c, T_A constant Measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=12V, V_c=1.4V, O_{load}=15pF$ and after 30 days of operation.	
	Aging Tolerance First Year	-0.05		+0.05	$\times 10^{-6}$		
	Aging Tolerance 10 Years	-0.2		+0.2	$\times 10^{-6}$		
	Retrace			± 5	$\times 10^{-9}$	After 60 min. turn on, following min. 24hours operation and max. 24 hours turn-off, constant temp. and voltage	



Power Supply	Supply Voltage	11.4	12	12.6	V	
	Steady Consumption			200	mA	@25°C
	Warm up current			800	mA	
	Warm-Up Time			5	min	@25°C within $\pm 0.02 \times 10^{-6}$ of final frequency with reference after 1 hour on
	Reference Voltage		2.8		V	
Voltage Control Characteristics	Frequency Tuning Range			-0.35	$\times 10^{-6}$	$V_c=0V$. measurement referenced to $V_c=1.4V$
		-0.1		+0.1	$\times 10^{-6}$	$V_c=1.4V$. measurement referenced to exactly 10.00MHz
		+0.35			$\times 10^{-6}$	$V_c=2.8V$. measurement referenced to $V_c=1.4V$
	Slope	Positive				
	Linearity			10	%	
	Input Impedance	50				K Ω
Phase Noise	Phase Noise @25°C			-90	dBc/Hz	1Hz
				-120		10Hz
				-140		100Hz
				-150		1KHz
				-155		10KHz
				-160		100KHz
Environmental Conditions	Operating Temperature	-40		+85	°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~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)



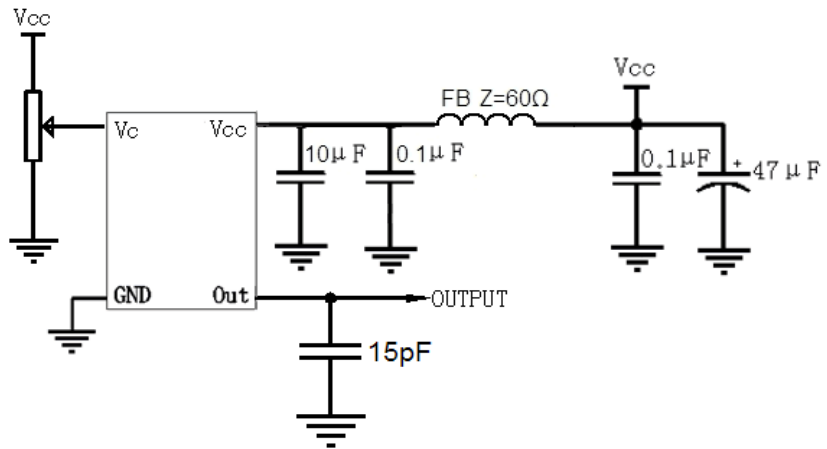
Note1: Tolerance ± 0.20mm without mark.

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

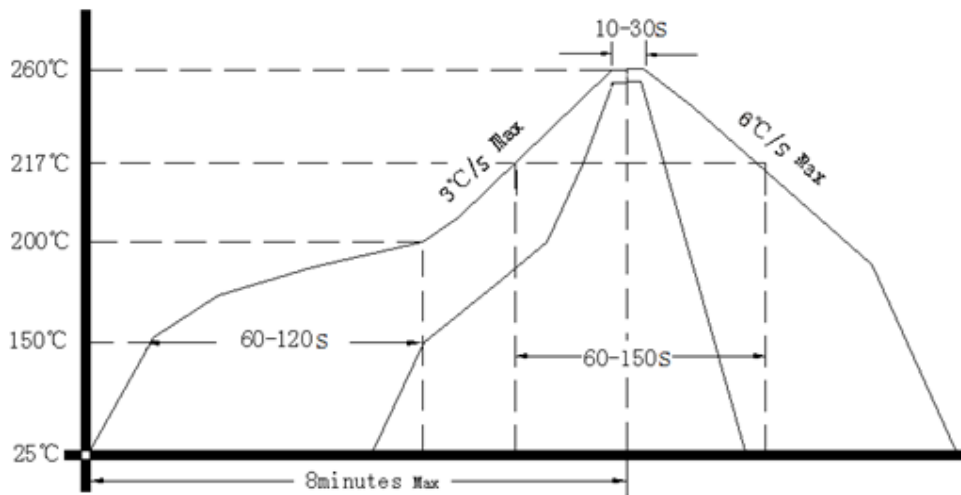
Note3: Referential Weight 21g.



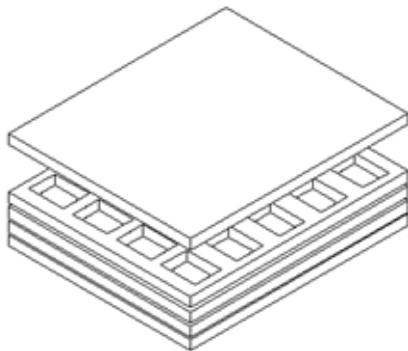
3. Test Circuit



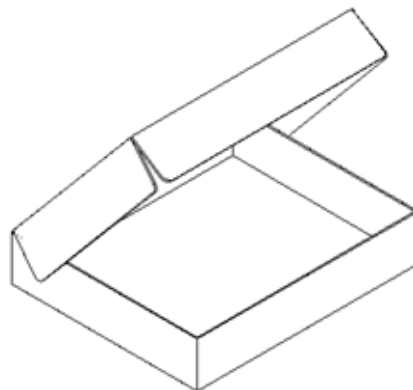
4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)



Buffer material



Cardboard
Max 20pcs. circulator

