

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

# DATASHEET

Standard: **O23B-M325-10.00MHz-CM**

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

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2024.07.15			

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### Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2024.07.15

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## 1. Electrical Parameters

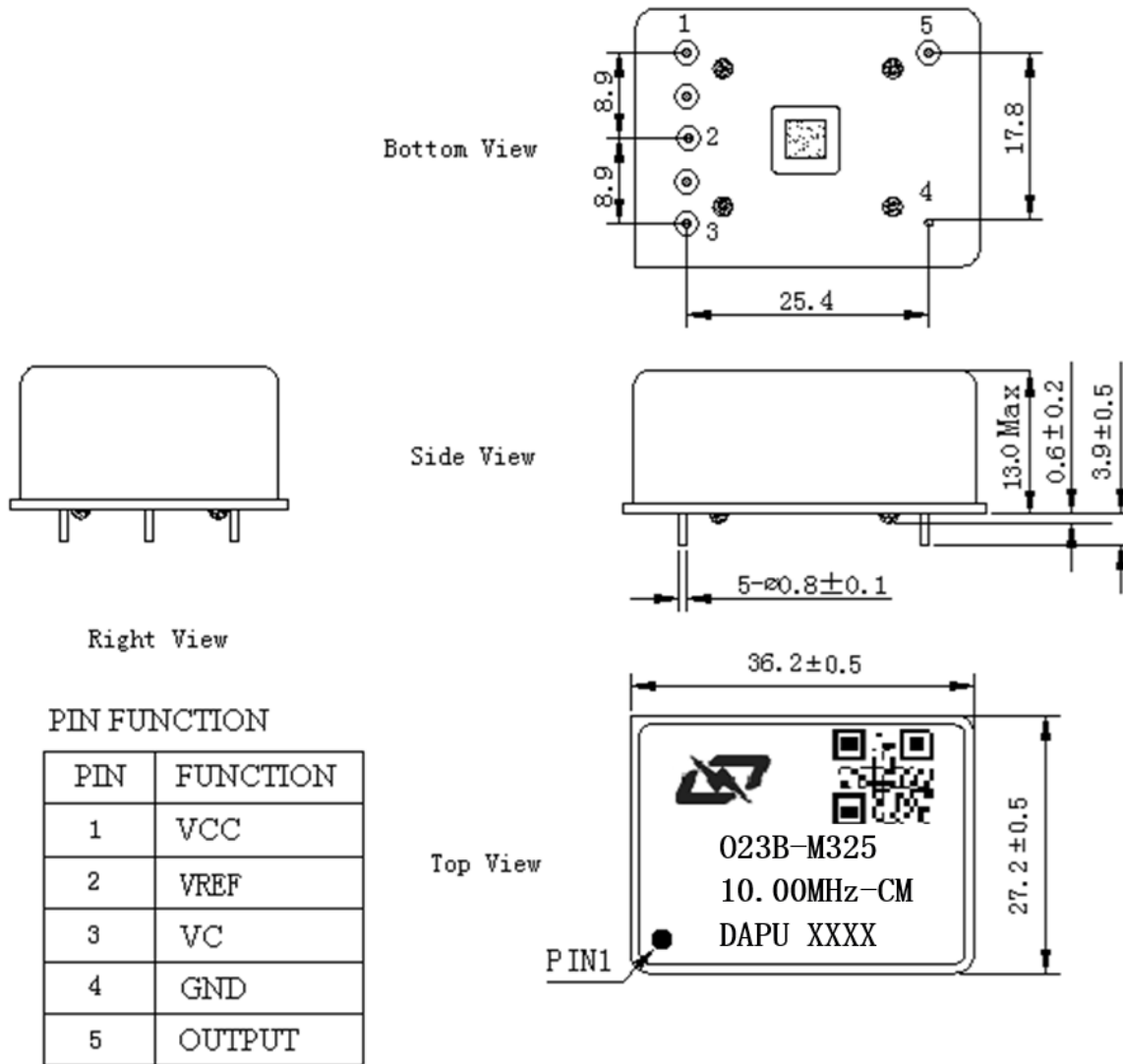
MODEL: O23B-M325-10.00MHZ-CM						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	10.00			MHz	
	Output Waveform	HCMOS				
	Output Low Voltage			0.3	V	$V_{cc}=5.0V, O_{load}=15pF$
	Output High Voltage	3.6			V	$V_{cc}=5.0V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	
	Load	15			pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range			0.5	$\times 10^{-9}$	$T_A$ varied from $-40^{\circ}C$ to $85^{\circ}C$ , measurement referenced to frequency observed with peak to peak, $V_{cc}=5.0V, O_{load}=15pF$ , 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 $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=2.0V$ , and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.3		+0.3	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^{\circ}C, V_{cc}$ varied from 4.75V to 5.25V, $V_c=2.0V$ , and $O_{Load}=15pF$ .
	Frequency Tolerance vs. Load	-0.3		+0.3	$\times 10^{-9}$	5% load change measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=2.0V$ , and $O_{Load}=15pF$ .
	Holdover	-2		+2	us	Over 8 hours, temp change within $10^{\circ}C$ during the holdover time, after 72hours constant operation
	Short-Term Stability: Allan Variance			3	$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$ ; 0.1s.
				5	$\times 10^{-12}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to $25^{\circ}C$ ; 1s.
	Aging Tolerance Per Day	-0.1		+0.1	$\times 10^{-9}$	$V_{cc}, V_c, T_A$ constant measurement referenced to frequency observed with $T_A=25^{\circ}C, V_{cc}=5.0V, V_c=2.0V$ , and after 30 days of operation.
	Aging Tolerance 1 Year	-0.03		+0.03	$\times 10^{-6}$	
	Aging Tolerance 10 Years	-0.2		+0.2	$\times 10^{-6}$	



Power Supply	Supply Voltage	4.75	5.0	5.25	V	
	Reference Voltage	3.8	4.0	4.2	V	
	Steady Consumption			400	mA	@25°C
	Warm up current			1200	mA	
	Warm-Up Time			5	min	@25°C within $\pm 0.02 \times 10^{-6}$ of final frequency with reference after 1 hour on.
Voltage Control Characteristics	Frequency Tuning Range	-0.7		-0.4	$\times 10^{-6}$	$V_c=0V$ . measurement referenced to $V_c=2.0V$
		-0.1		+0.1	$\times 10^{-6}$	$V_c=2.0V$ . measurement referenced to exactly 10.00MHz
		+0.4		+0.7	$\times 10^{-6}$	$V_c=4.0V$ . measurement referenced to $V_c=2.0V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			K $\Omega$	
Phase Noise	Phase Noise @25°C			-98	dBc/Hz	1Hz
				-133		10Hz
				-155		100Hz
				-160		1KHz
				-162		10KHz
Environmental Conditions	Operable 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)	-30~35°C				



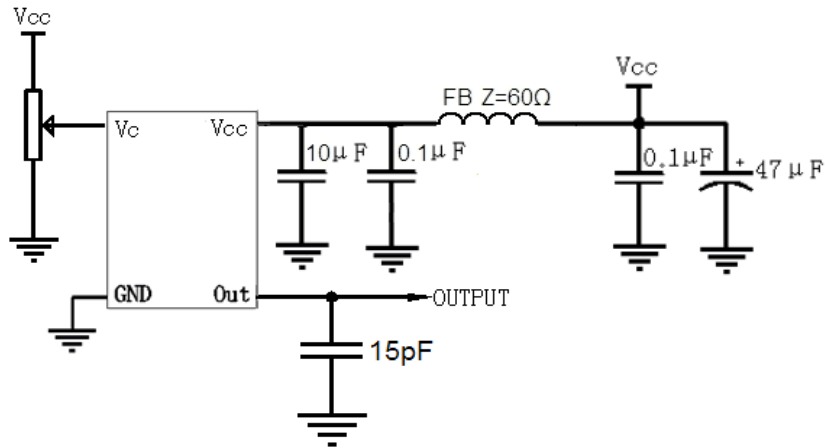
## 2. Mechanical Structure (mm)



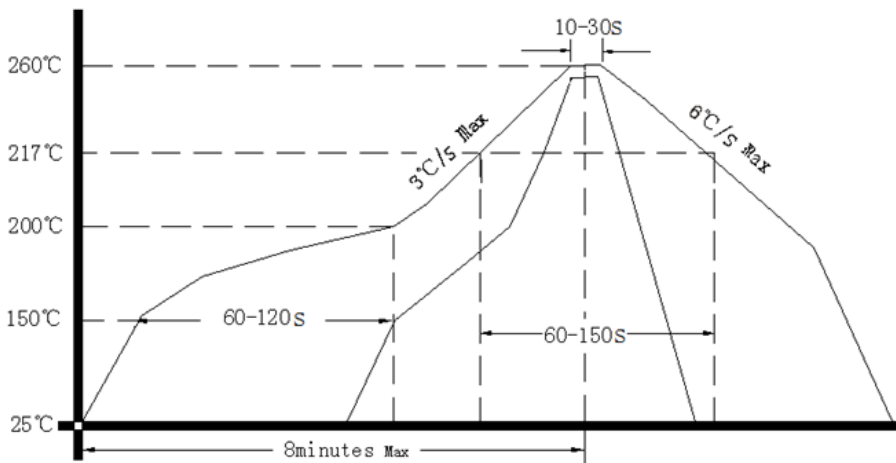
- Note1:** Tolerance ± 0.2mm without mark
- Note2:** The first two xx representative: year  
After two xx representative: week
- Note3:** Referential Weight 20.7g
- Note4:** NC is not connect



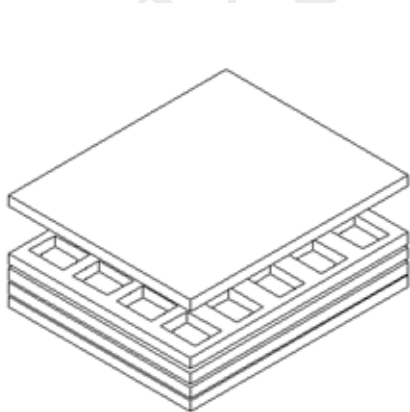
### 3. Test Circuit



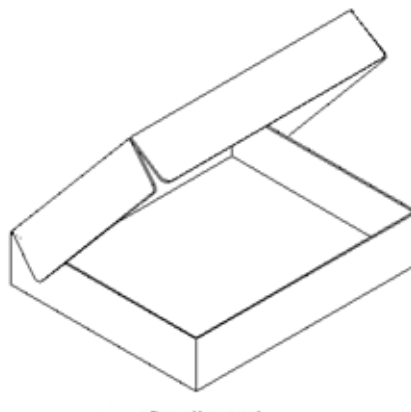
### 4. Reflow Soldering Curve (RoHS)



### 5. Package (mm)



Buffer material



Cardboard  
Max 20pcs. circulator

