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# Ultra-Low Phase Jitter LVCMOS SMD Clock Oscillator

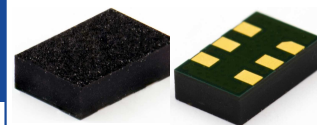
ASFLMX-25.000MHz-5ABH



ESD Sensitive



RoHS/RoHS II compliant



5.0 x 3.2 x 1.4mm

Moisture Sensitivity Level – MSL 3

## FEATURES:

- 25MHz LVCMOS
- Typical phase noise: 100fs (Integration range: 1.875MHz-20MHz)
- $\pm 50$ ppm total frequency stability over -40°C to +85°C temperature range
- Industry standard 6-Pin 5 x 3.2mm LGA package

## APPLICATIONS:

- Communications
- Backplane reference clock
- SERDES reference clock
- FPGA

## KEY ELECTRICAL SPECIFICATIONS

### Absolute Maximum Ratings

Item	Minimum	Maximum	Unit	Condition
Supply Voltage	-0.3	+3.6	V	
Storage Temp.	-55	+125	°C	
Lead Temp.(soldering, 10s)		+260	°C	
ESD (HBM)		2	kV	

VDD = 2.375 - 3.63V, TA = -40°C to +85°C, outputs terminated with 50 Ohms to VDD/2.<sup>(1)</sup>

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency		25.000			MHz	
Operating Temperature (TA)		-40		+85	°C	
Overall Frequency Stability <sup>(2)</sup>		-50		+50	ppm	
Supply Voltage (VDD)		+2.375		+3.63	V	
Supply Current (IDD)				95	mA	
Output Logic Level	V <sub>OH</sub>	V <sub>DD</sub> - 0.8			V	
	V <sub>OL</sub>			0.6	V	
Input Logic Level	V <sub>IH</sub>	2		V <sub>DD</sub> + 0.3	V	
	V <sub>IL</sub>	-0.3		0.8	V	
Start-up Time				20	ms	
Rise Time (Tr)		100		500	ps	No load 20% to 80%
Fall Time (Tf)		100		500		
Duty Cycle		45		55	%	
Phase Noise	Integration Range: 12kHz to 20MHz		220		fsRMS	
	Integration Range: 1.875MHz to 20MHz		100			

### Notes:

1. Guaranteed after thermal equilibrium
2. Inclusive of initial accuracy, temperature drift, aging, shock, vibration from -40°C to +85°C.

## PART IDENTIFICATION

ASFLMX-25.000MHz -5ABH -



### Packing

Blank: Bulk or Tube

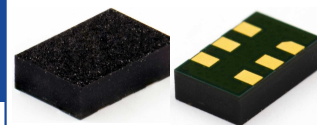
T: Tape & Reel (1k/reel)

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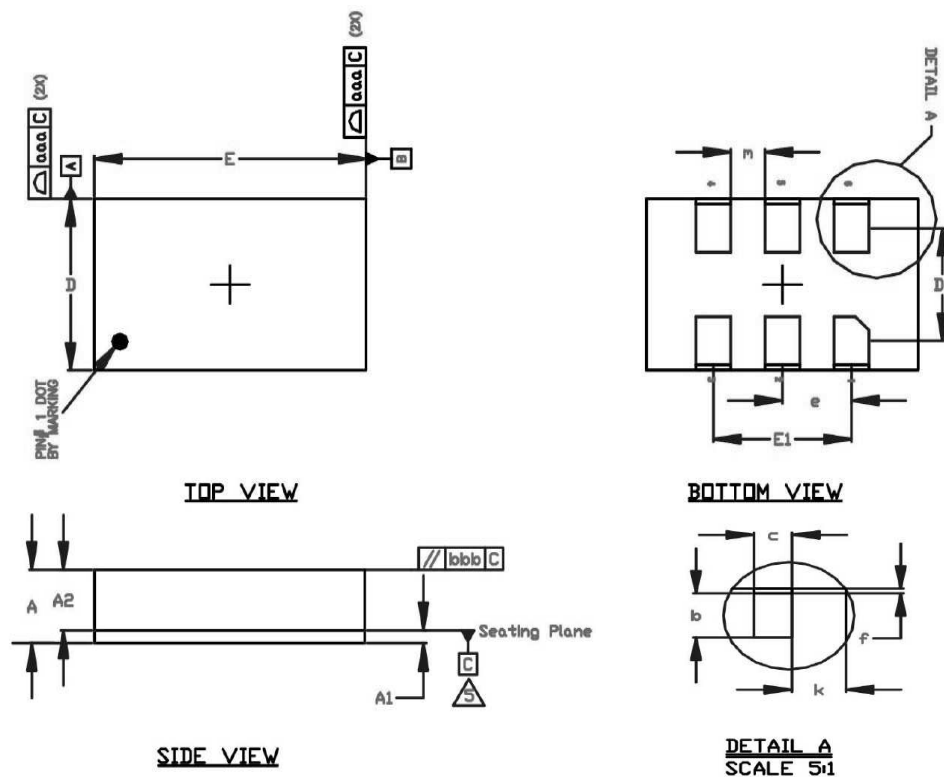


RoHS/RoHS II compliant



5.0 x 3.2 x 1.4mm

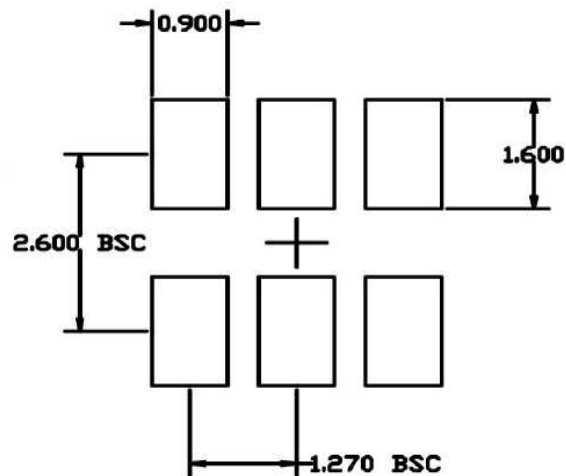
## OUTLINE DIMENSION



Ref.	Min.	Nom.	Max.
A	1.260	1.330	1.400
A1	0.190	0.230	0.270
A2	1.070	1.100	1.130
D	3.100	3.200	3.300
D1	2.100 BSC		
E	4.900	5.000	5.100
E1	2.540 BSC		
b	0.850	0.900	0.950
c	0.850	0.900	0.950
e	1.270 BSC		
f	0.050	0.100	0.150
k	0.860	0.910	0.960
m	0.580	0.630	0.680
n		6	

Dimensional Tolerance	
aaa	0.100
bbb	0.070

## Recommended Land Pattern



Dimensions: mm

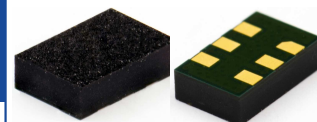


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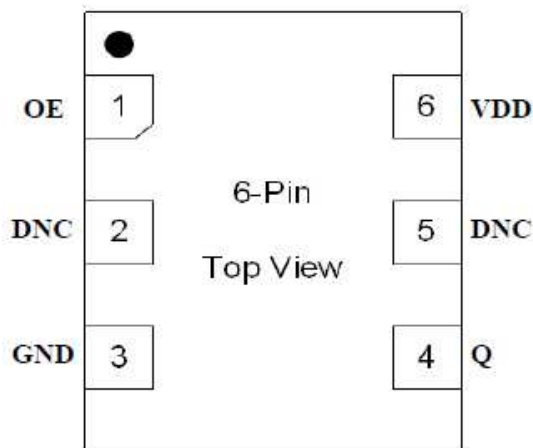


RoHS/RoHS II compliant



5.0 x 3.2 x 1.4mm

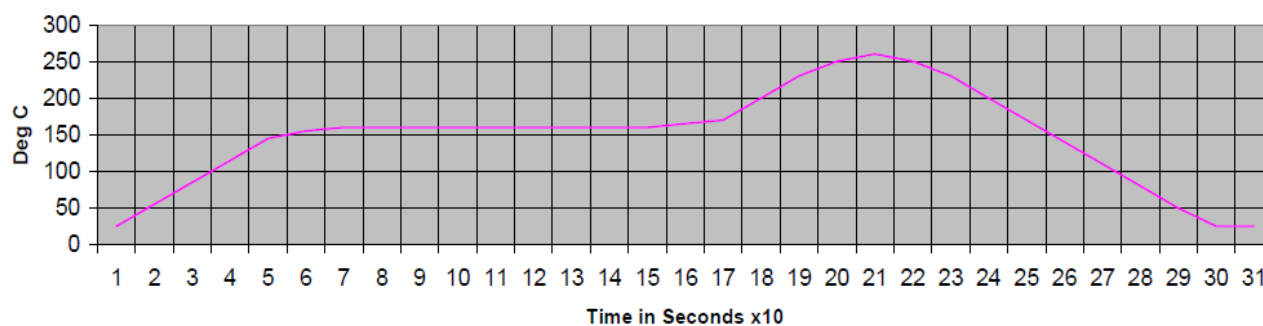
## PIN CONFIGURATION



Pin #	Pin Name	Pin Type	Pin Level	Pin Function
1	OE	I, SE	LVCMOS	Output Enable, disables output to tri-state. 1 = Disabled, 0 = Enabled, 50k $\Omega$ Pull-up
2	DNC			Make no connection, leave floating
3	GND	PWR		Power Supply Ground
4	Q	O	LVCMOS	Clock Output
5	DNC			Make no connection, leave floating
6	VDD	PWR		Power Supply

## REFLOW PROFILE

Lead-free Reflow Profile



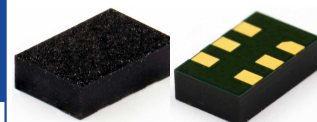
Parameters	Specifications
Average Ramp-up Rate	3°C /second max.
Pre-Heat Temp 150 – 200°C	60 – 180 second
Temp > 217°C	60 – 150 second
Time @ Peak Temperature	20 – 40 second
Peak Temperature	260°C + 0°C / -5°C
Ramp-down Rate	-6°C / second max.
Time 25°C to Peak Temp.	8 minutes max.

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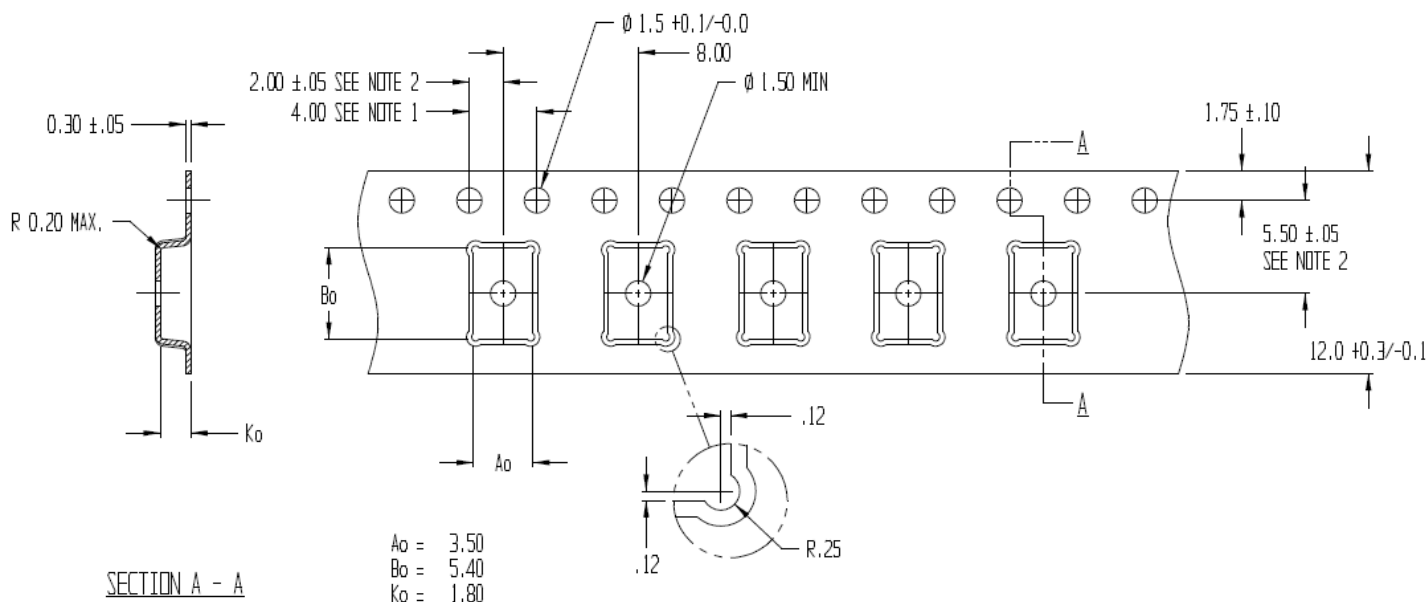


5.0 x 3.2 x 1.4mm

## TAPE & REEL

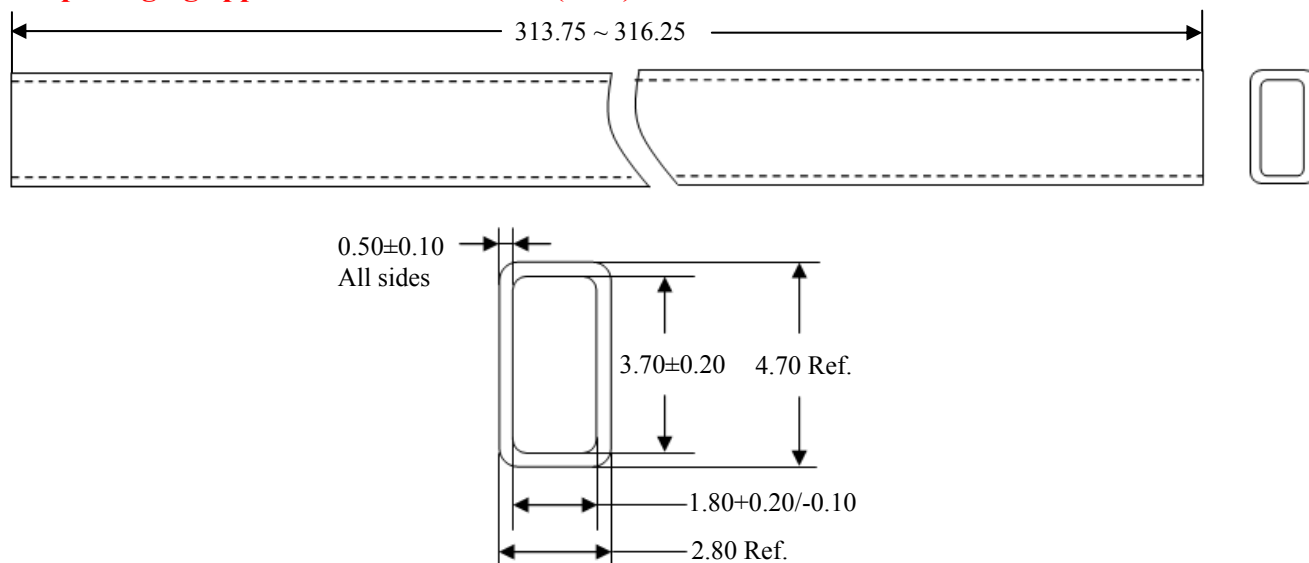
**T= Tape & Reel, 1000pcs/reel. Reel Size = 7-inch Reel**

**MSL-3 packaging applies to -T option.**



**Blank = Bulk or Tube (60pcs/tube)**

**MSL-3 packaging applies to MOQ=60 units (tube)**



**Dimensions: mm**

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