



FEATURES:

- Low Power Consumption <10mA
- Exceptional Stability +/- 10ppm Over Temp. at -40 to +105°C
- Compact QFN Plastic Packaging

APPLICATIONS:

- CCD Clock for VTR Camera
- Equipment Connected to PCs
- Low Profile Equipment
- Computers and Peripherals
- Lower Cost Crystal Oscillator Replacement
- Portable Electronics (MP3 Players, Games)
- Consumer Electronics such as TV's, DVR's, etc.
- Vibrant, Shock-Prone & Humid Environments for Industrial Equipment
- Demanding Military & Automotive Electronics

STANDARD SPECIFICATIONS:

Common Key Electrical Specifications

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|---------------------------------|--|---------|---------------|----------|-------------|
| Frequency Range: | 1.0 | | 150 | MHz | |
| Operating Temperature: | 0 | | +70 | °C | See options |
| Storage Temperature: | -55 | | +150 | °C | |
| Overall Frequency Stability*: | -50 | | +50 | ppm | See options |
| Supply Voltage (Vdd): | +1.8 ~ +3.3 | | | V | |
| Output Load: | 10 | | 15, 25, or 40 | pF kΩ | See options |
| Symmetry: | 45 | | 55 | % | @1/2Vdd |
| Startup Time: | | 1.5 | 3.0 | ms | |
| Disable Time: | | 20 | 100 | ns | |
| Disable Stand-by Current: | | | 15 | uA | |
| Tri-state Function (Stand-by) : | "1" (VIH≥0.75*Vdd) or Open: Oscillation "0" (VIL<0.25*Vdd) : Hi Z | | | V | |
| Aging: | -5.0 | ----- | +5.0 | ppm | First year |

Key Electrical Specifications V_{dd}= 1.8V

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|------------------------------|---------------------|---------------------|---------------------|-------|---------------------|
| Supply Current (no load): | 1.0 to 39.9999MHz | | 5 | mA | CL=0p |
| | 40.0 to 79.9999MHz | | 6 | mA | RL=∞ |
| | 80.0 to 124.9999MHz | | 7 | mA | T=25°C |
| | 125.0 to 150MHz | | 8 | mA | (Standard CL: 15pF) |
| | 1.0 to 39.9999MHz | | 6 | mA | CL=0p |
| | 40.0 to 79.9999MHz | | 7 | mA | RL=∞ |
| | 80.0 to 124.9999MHz | | 8 | mA | T=25°C |
| | 125.0 to 150MHz | | 9 | mA | (CL option: 25pF) |
| | 1.0 to 39.9999MHz | | 7 | mA | CL=0p |
| | 40.0 to 79.9999MHz | | 8 | mA | RL=∞ |
| | 80.0 to 124.9999MHz | | 9 | mA | T=25°C |
| | 125.0 to 150MHz | | 10 | mA | (CL option: 40pF) |
| Output Voltage: | V _{OH} | 0.8*V _{dd} | | V | |
| | V _{OL} | | 0.2*V _{dd} | V | CL=15, 25, 40pF |
| Rise Time: Fall Time: | T _r | | 1.8 | ns | CL=15pF; T=25°C |
| | T _f | | 1.0 | ns | 20%/80%*VDD |
| | T _r | | 1.5 | ns | CL=25pF; T=25°C |
| | T _f | | 1.2 | ns | 20%/80%*VDD |
| | T _r | | 1.4 | ns | CL=40pF; T=25°C |
| | T _f | | 1.1 | ns | 20%/80%*VDD |
| Cycle to Cycle Jitter: | | 60 | | ps | F=100MHz |
| Period Jitter RMS: | | 10 | | ps | F=100MHz |

Key Electrical Specifications – $V_{dd}=2.5V$

| Parameters | | Minimum | Typical | Maximum | Units | Notes |
|------------------------------|---------------------|--------------------|---------|--------------------|-------|--|
| Supply Current (no load): | 1.0 to 39.9999MHz | | 6 | 15 | mA | CL=0p RL= ∞ T=25°C (Standard CL: 15pF) |
| | 40.0 to 79.9999MHz | | 7 | 15 | mA | |
| | 80.0 to 124.9999MHz | | 8 | 15 | mA | |
| | 125.0 to 150MHz | | 9 | 15 | mA | |
| | 1.0 to 39.9999MHz | | 7 | 15 | mA | CL=0p RL= ∞ T=25°C (CL option: 25pF) |
| | 40.0 to 79.9999MHz | | 8 | 15 | mA | |
| | 80.0 to 124.9999MHz | | 9 | 15 | mA | |
| | 125.0 to 150MHz | | 10 | 15 | mA | |
| | 1.0 to 39.9999MHz | | 8 | 16 | mA | CL=0p RL= ∞ T=25°C (CL option: 40pF) |
| | 40.0 to 79.9999MHz | | 9 | 16 | mA | |
| | 80.0 to 124.9999MHz | | 10 | 16 | mA | |
| | 125.0 to 150MHz | | 11 | 16 | mA | |
| Output Voltage: | V_{OH} | $0.8 \cdot V_{dd}$ | | | V | CL=15, 25pF |
| | V_{OL} | | | $0.2 \cdot V_{dd}$ | V | |
| | V_{OH} | $0.9 \cdot V_{dd}$ | | | V | |
| | V_{OL} | | | $0.1 \cdot V_{dd}$ | V | |
| Rise Time: Fall Time: | T_r | | 1.0 | 2.0 | ns | CL=15pF; T=25°C 20%/80%*VDD |
| | T_f | | 0.9 | 2.0 | ns | |
| | T_r | | 1.1 | 2.0 | ns | CL=25pF; T=25°C 20%/80%*VDD |
| | T_f | | 0.9 | 2.0 | ns | |
| | T_r | | 1.0 | 2.0 | ns | CL=40pF; T=25°C 20%/80%*VDD |
| | T_f | | 0.9 | 2.0 | ns | |
| Cycle to Cycle Jitter: | | | 50 | | ps | F=100MHz |
| Period Jitter RMS: | | | 5 | | ps | F=100MHz |

Key Electrical Specifications – $V_{dd}=3.3V$

| Parameters | | Minimum | Typical | Maximum | Units | Notes |
|------------------------------|---------------------|--------------|---------|--------------|-------|--|
| Supply Current (no load): | 1.0 to 39.9999MHz | | 7 | 15 | mA | CL=0p RL= ∞ T=25°C (Standard CL: 15pF) |
| | 40.0 to 79.9999MHz | | 8 | 15 | mA | |
| | 80.0 to 124.9999MHz | | 9 | 15 | mA | |
| | 125.0 to 150MHz | | 10 | 15 | mA | |
| | 1.0 to 39.9999MHz | | 8 | 16 | mA | CL=0p RL= ∞ T=25°C (CL option: 25pF) |
| | 40.0 to 79.9999MHz | | 9 | 16 | mA | |
| | 80.0 to 124.9999MHz | | 10 | 16 | mA | |
| | 125.0 to 150MHz | | 11 | 16 | mA | |
| | 1.0 to 39.9999MHz | | 8 | 16 | mA | CL=0p RL= ∞ T=25°C (CL option: 40pF) |
| | 40.0 to 79.9999MHz | | 9 | 16 | mA | |
| | 80.0 to 124.9999MHz | | 10 | 16 | mA | |
| | 125.0 to 150MHz | | 11 | 16 | mA | |
| Output Voltage: | V_{OH} | $0.8*V_{dd}$ | | | V | CL=15pF |
| | V_{OL} | | | $0.2*V_{dd}$ | V | |
| | V_{OH} | $0.9*V_{dd}$ | | | V | |
| | V_{OL} | | | $0.1*V_{dd}$ | V | |
| Rise Time: Fall Time: | Tr | | 1.0 | 2.0 | ns | CL=15pF; T=25°C 20%/80%*VDD |
| | Tf | | 0.9 | 2.0 | ns | |
| | Tr | | 1.0 | 2.0 | ns | CL=25pF; T=25°C 20%/80%*VDD |
| | Tf | | 0.9 | 2.0 | ns | |
| | Tr | | 0.8 | 2.0 | ns | CL=40pF; T=25°C 20%/80%*VDD |
| | Tf | | 0.8 | 2.0 | ns | |
| Cycle to Cycle Jitter: | | | 50 | | ps | F=100MHz |
| Period Jitter RMS: | | | 5 | | ps | F=100MHz |

Absolute Maximum Ratings

| Item | Minimum | Maximum | Unit | Condition |
|-----------------|---------|---------|------|-----------|
| Supply Voltage | -0.3 | +4.0 | V | |
| Input Voltage | -0.3 | Vdd+0.3 | V | |
| Junction Temp. | | +150 | °C | |
| Storage Temp. | -55 | +150 | °C | |
| Soldering Temp. | | +260 | °C | 40sec max |
| ESD | | | V | |
| HBM | | 4,000 | | |
| MM | | 200 | | |
| CDM | | 1,500 | | |



OPTIONS AND PART IDENTIFICATION: (Left Blank if Standard)

Programmed Orders (Quantity > 1,000pcs)

ASFLMB - MHz - - -

| Frequency in MHz | Operating Temp. | Overall Freq. Stability | Output Load | Packaging |
|--|---|--|-------------------------------------|---|
| e.g. 14.3181 MHz (Maximum 4 digits after decimal) | Blank: 0°C ~ +70°C E: -20°C ~ +70°C L: -40°C ~ +85°C X: -40°C ~ +105°C | C: ±50ppm (STD) Y: ±10ppm R: ±25 ppm | Blank: 15pF 25: 25pF 40: 40pF | Blank*: 72pcs / Tube T: 1,000pcs / reel T3: 3,000pcs / reel |

* For Quick turn-around programmable orders < 1000pcs: Due to the immediate availability of stock and the qty of the order, the parts may be delivered as BULK: Cut Tape, Loose parts in Antistatic Bag or in Tube(s). The MOQ per the series will still apply for Tube packaging.

Un-Programmed Orders

Blank un-programmed oscillators are available for quick turn engineering requirements. Please call ABRACON for more information.

ASFLMB - BLANK - - -

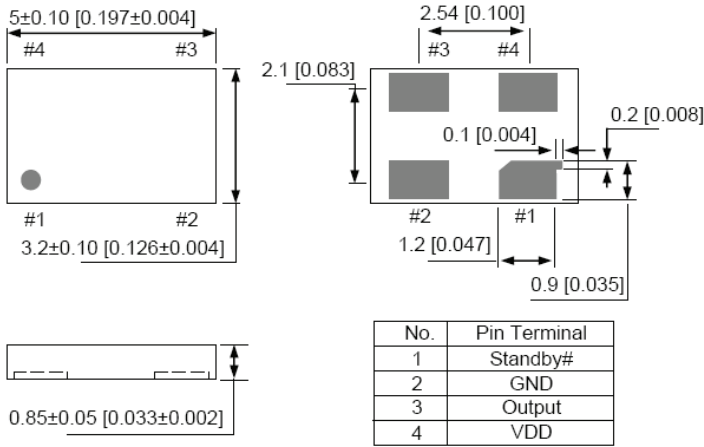
| Operating Temp. | Overall Freq. Stability | Output Load | Packaging |
|---|--|-------------------------------------|--|
| Blank: 0°C ~ +70°C E: -20°C ~ +70°C L: -40°C ~ +85°C X: -40°C ~ +105°C | C: ±50ppm (STD) Y: ±10ppm R: ±25 ppm | Blank: 15pF 25: 25pF 40: 40pF | Blank: 72pcs / Tube T: 1,000pcs / reel T3: 3,000pcs / reel |



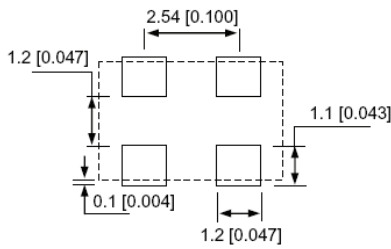
ASFLMB

Pb | RoHS/RoHS II Compliant

OUTLINE DIMENSIONS:



Recommended Land Pattern



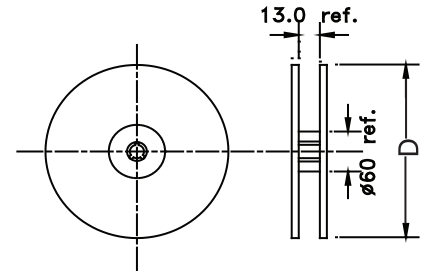
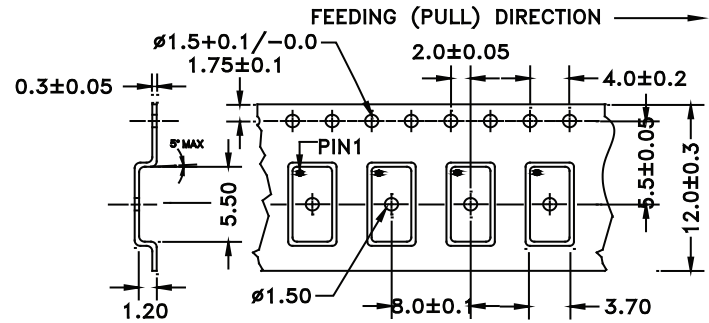
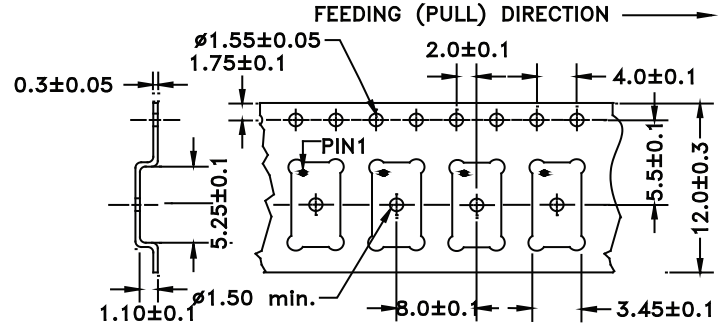
Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and 4.

Dimensions: mm (inches)

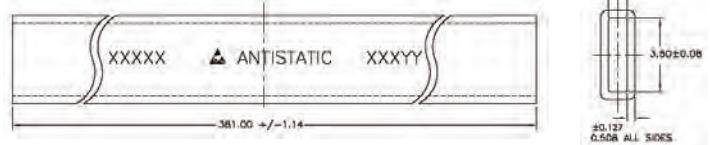
TAPE AND REEL:

T= 1,000pcs/reel (D=180mm)

T3= 3,000pcs/reel (D=330mm)



Tube: 72 pcs/tube

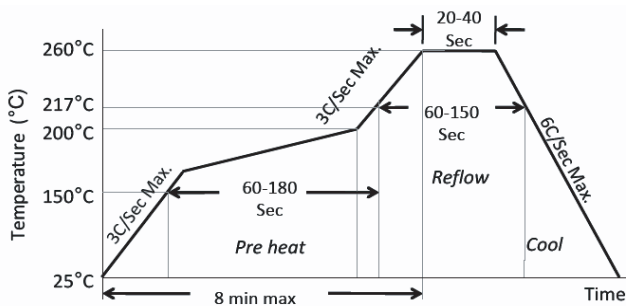


Unit orientation in tube:



Dimensions: mm

REFLOW PROFILE:



| | |
|-----------------------------------|--------------|
| Ramp-Up Rate (200°C to Peak Temp) | 3°C/Sec Max. |
| Preheat Time 150°C to 200°C | 60-180 Sec |
| Time maintained above 217°C | 60-150 Sec |
| Peak Temperature | 255-260°C |
| Time within 5°C of actual Peak | 20-40 Sec |
| Ramp-Down Rate | 6°C/Sec Max. |
| Time 25°C to Peak Temperature | 8 min Max. |



Need a test socket for the ASFLMB Series? To view compatible **PRECISION TEST SOCKETS** for these parts, [click here](#): PN: **AXS-5032-04-07**.

ATTENTION: Abracon LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependent Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon LLC is required. Please contact Abracon LLC for more information.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ABRACON:

[ASFLMB-BLANK-XY](#) [ASFLMB-BLANK-LY](#) [ASFLMB-BLANK-EY](#) [ASFLMB-BLANK-XR](#) [ASFLMB-BLANK-LR](#)
[ASFLMB-BLANK-ER](#) [ASFLMB-BLANK-E](#) [ASFLMB-BLANK-L](#) [ASFLMB-BLANK-X](#) [ASFLMB-1.544MHZ-LR-T](#)
[ASFLMB-1.8432MHZ-LR-T](#) [ASFLMB-10.000MHZ-LR-T](#) [ASFLMB-100.000MHZ-LR-T](#) [ASFLMB-106.250MHZ-LY-T](#)
[ASFLMB-11.0592MHZ-LR-T](#) [ASFLMB-12.000MHZ-LR-T](#) [ASFLMB-12.288MHZ-LR-T](#) [ASFLMB-125.000MHZ-LY-T](#)
[ASFLMB-133.333MHZ-LY-T](#) [ASFLMB-14.31818MHZ-LR-T](#) [ASFLMB-14.7456MHZ-LR-T](#) [ASFLMB-150.000MHZ-LY-T](#)
[ASFLMB-16.000MHZ-LR-T](#) [ASFLMB-16.384MHZ-LR-T](#) [ASFLMB-18.432MHZ-LR-T](#) [ASFLMB-20.000MHZ-LR-T](#)
[ASFLMB-24.000MHZ-LR-T](#) [ASFLMB-24.576MHZ-LR-T](#) [ASFLMB-25.000MHZ-LR-T](#) [ASFLMB-27.000MHZ-LR-T](#)
[ASFLMB-29.4912MHZ-LR-T](#) [ASFLMB-3.6864MHZ-LR-T](#) [ASFLMB-30.000MHZ-LR-T](#) [ASFLMB-32.000MHZ-LR-T](#)
[ASFLMB-33.000MHZ-LR-T](#) [ASFLMB-33.333MHZ-LR-T](#) [ASFLMB-4.000MHZ-LR-T](#) [ASFLMB-40.000MHZ-LR-T](#)
[ASFLMB-44.000MHZ-LR-T](#) [ASFLMB-48.000MHZ-LR-T](#) [ASFLMB-50.000MHZ-LR-T](#) [ASFLMB-6.000MHZ-LR-T](#)
[ASFLMB-60.000MHZ-LR-T](#) [ASFLMB-7.3728MHZ-LR-T](#) [ASFLMB-75.000MHZ-LR-T](#) [ASFLMB-8.000MHZ-LR-T](#)
[ASFLMB-80.000MHZ-LR-T](#) [ASFLMB-1.8432MHZ-LY-T](#) [ASFLMB-1.8432MHZ-XY-T](#) [ASFLMB-10.000MHZ-LY-T](#)
[ASFLMB-10.000MHZ-XY-T](#) [ASFLMB-100.000MHZ-LY-T](#) [ASFLMB-100.000MHZ-XY-T](#) [ASFLMB-106.250MHZ-XY-T](#)
[ASFLMB-11.0592MHZ-LY-T](#) [ASFLMB-11.0592MHZ-XY-T](#) [ASFLMB-12.000MHZ-LY-T](#) [ASFLMB-12.000MHZ-XY-T](#)
[ASFLMB-120.000MHZ-LY-T](#) [ASFLMB-120.000MHZ-XY-T](#) [ASFLMB-125.000MHZ-XY-T](#) [ASFLMB-133.333MHZ-XY-T](#)
[ASFLMB-14.31818MHZ-LY-T](#) [ASFLMB-14.31818MHZ-XY-T](#) [ASFLMB-14.7456MHZ-LY-T](#) [ASFLMB-14.7456MHZ-XY-T](#)
[ASFLMB-150.000MHZ-XY-T](#) [ASFLMB-16.000MHZ-LY-T](#) [ASFLMB-16.000MHZ-XY-T](#) [ASFLMB-18.432MHZ-LY-T](#)
[ASFLMB-18.432MHZ-XY-T](#) [ASFLMB-20.000MHZ-LY-T](#) [ASFLMB-20.000MHZ-XY-T](#) [ASFLMB-24.000MHZ-LY-T](#)
[ASFLMB-24.000MHZ-XY-T](#) [ASFLMB-24.576MHZ-LY-T](#) [ASFLMB-24.576MHZ-XY-T](#) [ASFLMB-25.000MHZ-LY-T](#)
[ASFLMB-25.000MHZ-XY-T](#) [ASFLMB-27.000MHZ-LY-T](#) [ASFLMB-27.000MHZ-XY-T](#) [ASFLMB-3.6864MHZ-LY-T](#)
[ASFLMB-3.6864MHZ-XY-T](#) [ASFLMB-30.000MHZ-LY-T](#) [ASFLMB-30.000MHZ-XY-T](#) [ASFLMB-32.000MHZ-LY-T](#)
[ASFLMB-32.000MHZ-XY-T](#) [ASFLMB-33.000MHZ-LY-T](#) [ASFLMB-33.000MHZ-XY-T](#) [ASFLMB-33.333MHZ-LY-T](#)
[ASFLMB-33.333MHZ-XY-T](#) [ASFLMB-4.000MHZ-LY-T](#) [ASFLMB-4.000MHZ-XY-T](#) [ASFLMB-40.000MHZ-LY-T](#)
[ASFLMB-40.000MHZ-XY-T](#) [ASFLMB-48.000MHZ-LY-T](#) [ASFLMB-48.000MHZ-XY-T](#) [ASFLMB-50.000MHZ-LY-T](#)
[ASFLMB-50.000MHZ-XY-T](#) [ASFLMB-66.000MHZ-LY-T](#)