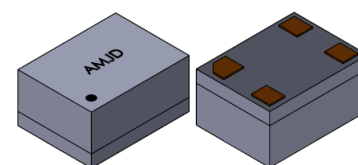


# FREQUENCY SELECTABLE MEMS OSCILLATORS



## AMJD-SERIES



ESD Sensitive



RoHS/RoHS II Compliant

MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## FEATURES

- Output selectable between 2 frequencies
- Compact footprint as small as 1.6x1.2mm
- Low 0.84mm profile
- Low power consumption
- 1MHz to 100MHz output frequency range
- Short lead time for new frequencies
- Wide -40°C to +85°C operating temperature range
- Low operating current: 3mA IDD (typ)

## APPLICATIONS

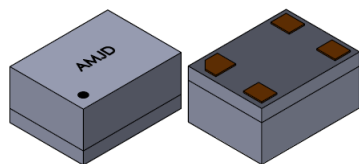
- Wearables
- Internet of Things (IoT)
- Industrial IoT
- Audio and video
- Drones and robotics

## ELECTRICAL SPECIFICATIONS

Electrical characteristics unless otherwise indicated,  $V_{DD} = 1.8V - 5\%$  to  $3.3V + 10\%$ , temperature range -40°C to 85 °C

| Parameters                        |                     | Min.               | Typ. | Max.               | Units | Note                                                    |
|-----------------------------------|---------------------|--------------------|------|--------------------|-------|---------------------------------------------------------|
| Frequency Range                   |                     | 1.0000             |      | 100.0000           | MHz   |                                                         |
| Power Supply Voltage ( $V_{DD}$ ) |                     | 1.71               |      | 3.63               | V     |                                                         |
| Current Consumption ( $I_{DD}$ )  |                     |                    | 3.0  |                    | mA    | $f_{out} = 27\text{MHz}$ , $V_{DD} = 1.8V$ ,<br>No Load |
| Operating Temperature Range       |                     | -40                |      | +85                | °C    | See Options                                             |
| Storage Temperature               |                     | -55                |      | +150               | °C    |                                                         |
| All Inclusive Frequency Stability |                     | -25                |      | +25                | ppm   | Options "D" or "F"                                      |
|                                   |                     | -50                |      | +50                |       | Options "E" or "G"                                      |
| Aging                             |                     | -5                 |      | +5                 | ppm   | 1 <sup>st</sup> year @25°C                              |
|                                   |                     | -1                 |      | +1                 |       | Per year after first year                               |
| Duty Cycle                        |                     | 45                 |      | 55                 | %     |                                                         |
| Output Logic Levels               | Logic High $V_{OH}$ | $0.8 \cdot V_{DD}$ |      |                    | V     | Std Drive option: I = 3mA                               |
|                                   | Logic Low $V_{OL}$  |                    |      | $0.2 \cdot V_{DD}$ |       | High Drive option: I = 6 mA                             |
|                                   |                     |                    |      |                    |       | Std Drive option: I = -3mA                              |
|                                   |                     |                    |      |                    |       | High Drive option: I = -6 mA                            |
| Input Logic Levels                | Logic High $V_{IH}$ | $0.7 \cdot V_{DD}$ |      |                    | V     |                                                         |
|                                   | Logic Low $V_{IL}$  |                    |      | $0.3 \cdot V_{DD}$ |       |                                                         |
| Enable Pull-Up Resistor           |                     |                    | 300  |                    | kΩ    |                                                         |
| Power Supply Ramp ( $t_{PU}$ )    |                     | 0.1                |      | 100                | ms    | Time to 90% targeted $V_{DD}$                           |
| Start-up Time ( $t_{SU}$ )        |                     |                    |      | 1.3                | ms    | From 90% $V_{DD}$ to valid clock output, @ 25°C         |

# FREQUENCY SELECTABLE MEMS OSCILLATORS



AMJD-SERIES



ESD Sensitive



RoHS/RoHS II Compliant

MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

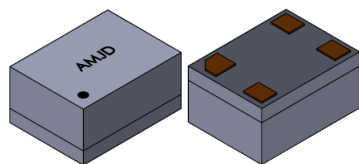
## ELECTRICAL SPECIFICATIONS

| Parameters                                   |                                         | min | Typ. | Max. | Units   | Note                               |
|----------------------------------------------|-----------------------------------------|-----|------|------|---------|------------------------------------|
| Frequency Select Switching Time ( $t_{fs}$ ) |                                         |     | 40   |      | $\mu s$ |                                    |
| Rise( $T_r$ )/Fall ( $T_f$ ) Time            | High Drive<br>20% $\leftrightarrow$ 80% |     | 1    | 1.5  | ns      | CL = 15 pF   $V_{DD} = 1.8V$       |
|                                              |                                         |     | 0.5  | 1.0  |         | CL = 15 pF<br>$V_{DD} = 2.5V/3.3V$ |
|                                              | Std Drive<br>20% $\leftrightarrow$ 80%  |     | 1.2  | 2.0  |         | CL = 10 pF   $V_{DD} = 1.8V$       |
|                                              |                                         |     | 1.5  | 2.2  |         | CL = 10 pF<br>$V_{DD} = 2.5V/3.3V$ |
| RMS Period Jitter                            | $f_{out} =$<br>27 MHz                   |     | 9.5  | 11   | ps      | $V_{DD} = 1.8 V$                   |
|                                              |                                         |     | 7.5  | 9    |         | $V_{DD} = 2.5V/3.3V$               |
| Cycle-to-Cycle Jitter<br>(Peak)              | $f_{out} =$<br>27 MHz                   |     | 50   | 70   | ps      | $V_{DD} = 1.8 V$                   |
|                                              |                                         |     | 35   | 60   |         | $V_{DD} = 2.5V/3.3V$               |

## ABSOLUTE MAXIMUM RATINGS

| Parameters                        | min                         | Typ. | Max.           | Units       | Note                |
|-----------------------------------|-----------------------------|------|----------------|-------------|---------------------|
| Supply Voltage                    | -0.3                        |      | +4.0           | V           |                     |
| Input Voltage                     | -0.3                        |      | $V_{DD} + 0.3$ | V           |                     |
| Maximum Junction Temperature      |                             |      | +150           | $^{\circ}C$ |                     |
| Ambient Operating Temperature     | -40                         |      | +85            | $^{\circ}C$ | Industrial          |
| Ambient Operating Temperature     | -20                         |      | +70            | $^{\circ}C$ | Extended Commercial |
| Storage Ambient Temperature Range | -55                         |      | +150           | $^{\circ}C$ |                     |
| Soldering Temperature             |                             | +260 |                | $^{\circ}C$ | 40 Sec Maximum      |
| ESD Protection                    | 4 kV HBM, 400V MM, 2 kV CDM |      |                |             |                     |

# FREQUENCY SELECTABLE MEMS OSCILLATORS



AMJD-SERIES



ESD Sensitive

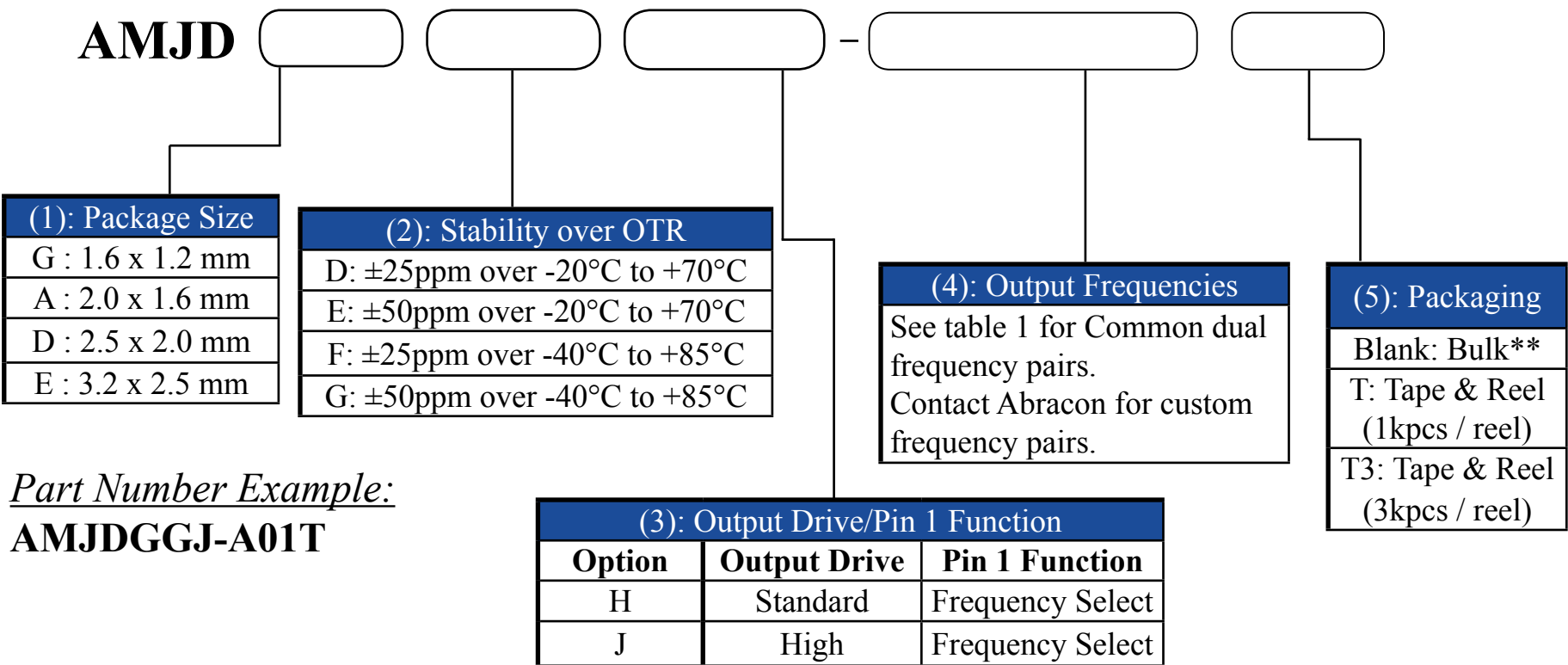


RoHS/RoHS II Compliant

MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## OPTIONS AND PART IDENTIFICATION



| Frequency Code | Frequency 1 | Frequency 2 | Frequency Code | Frequency 1 | Frequency 2   |
|----------------|-------------|-------------|----------------|-------------|---------------|
| A01            | 20.000 MHz  | 25.000 MHz  | A09            | 24.000 MHz  | 48.000 MHz    |
| A02            | 50.000 MHz  | 25.000 MHz  | A10            | 48.000MHz   | 50.000MHz     |
| A03            | 40.000 MHz  | 80.000 MHz  | A11            | 50.000 MHz  | 100.000 MHz   |
| A04            | 74.250 MHz  | 74.1758 MHz | A12            | 75.000 MHz  | 100.000 MHz   |
| A05            | 25.000 MHz  | 27.000 MHz  | A13            | 6.16791 MHz | 6.1298496 MHz |
| A06            | 26.000 MHz  | 27.000 MHz  | A14            | 27.000 MHz  | 32.000 MHz    |
| A07            | 19.440 MHz  | 25.000 MHz  | A15            | 25.000 MHz  | 32.000 MHz    |
| A08            | 12.000 MHz  | 24.000 MHz  | A16            | 12.000 MHz  | 48.000 MHz    |

\*\*MOQ per package:

1.6x1.2mm: 100pcs/bag

2.0x1.6mm: 100pcs/bag

2.5x2.0mm: 140 pcs/tube

3.2x2.5mm: 110 pcs/tube

For Quick turn-around programmable sample orders less than MOQ represented above:  
Due to the immediate availability of stock and the qty of the order, the parts may be delivered as Cut Tape, Loose parts in Antistatic Bag or in Tube(s).

For orders equal to or greater than MOQ and less than 1000pcs:  
Due to packaging, the order must be a multiple of MOQ per package size above

For orders equal to or greater than 1000pcs:  
Bulk is not an option. Please refer to tape and reel packaging.

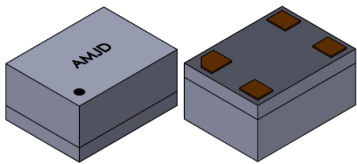


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# FREQUENCY SELECTABLE MEMS OSCILLATORS



AMJD-SERIES



ESD Sensitive



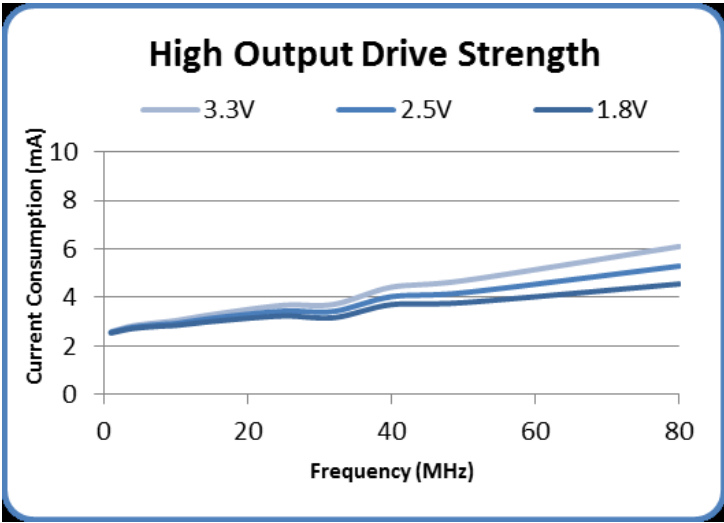
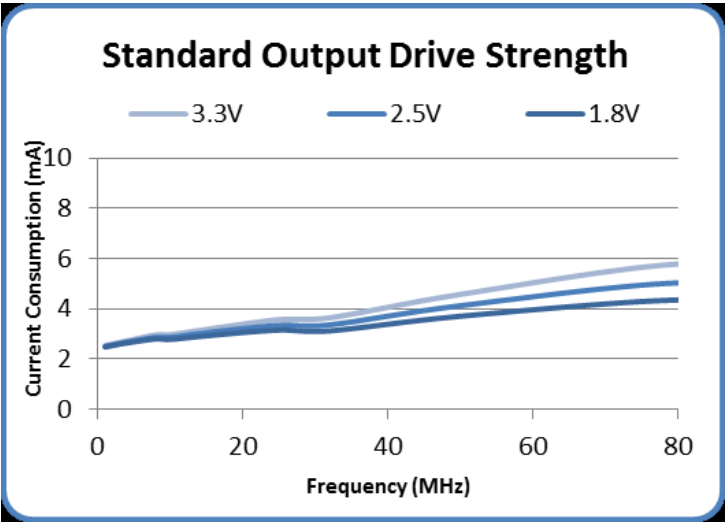
RoHS/RoHS II Compliant

MSL = MSL 1

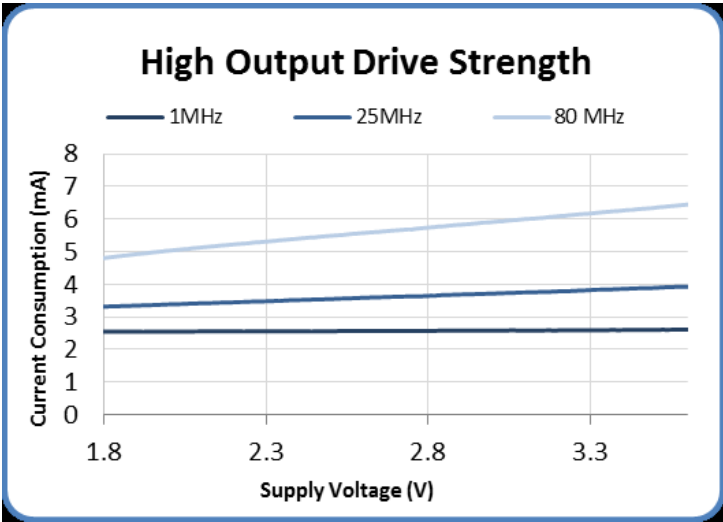
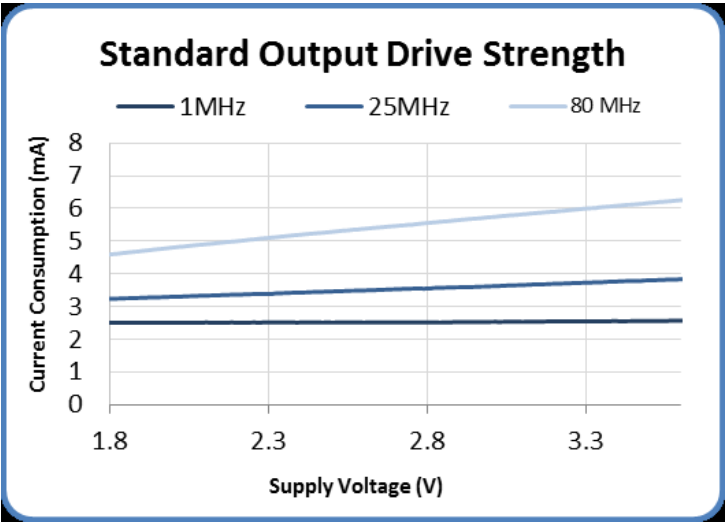
1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## TYPICAL PERFORMANCE DATA @ 25°C ± 3°C

### Current Consumption vs Frequency



### Current Consumption vs Supply Voltage



## PINFUNCTIONS

| Pin Number | Pin Name        | Description                                                                                |
|------------|-----------------|--------------------------------------------------------------------------------------------|
| 1          | FS              | Frequency Select <sup>Note 1&amp;3</sup> : High or Open = Frequency 1<br>Low = Frequency 2 |
| 2          | GND             | Power Supply Ground                                                                        |
| 3          | Output          | Oscillator Clock Output                                                                    |
| 4          | V <sub>DD</sub> | Power Supply <sup>Note 2</sup>                                                             |

### Notes :

1. If pin 1 is high or floating, frequency 1 will be engaged on pin 3. If pin 1 is low, frequency 2 will be engaged on pin 3.
2. Bypass with 0.1  $\mu$ F capacitor placed as close to V<sub>DD</sub> pin as possible.
3. 300 K $\Omega$  internal pull-up resistor present on pin 1.

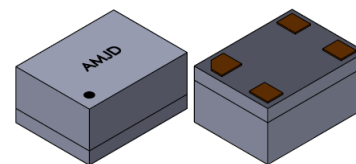


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# FREQUENCY SELECTABLE MEMS OSCILLATORS



## AMJD-SERIES



ESD Sensitive



RoHS/RoHS II Compliant

MSL = MSL 1

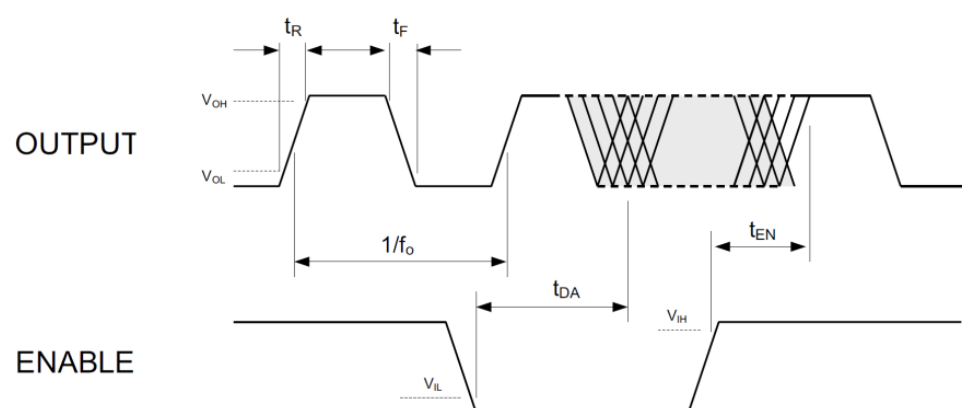
1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## OUTPUT BUFFER OPTIONS

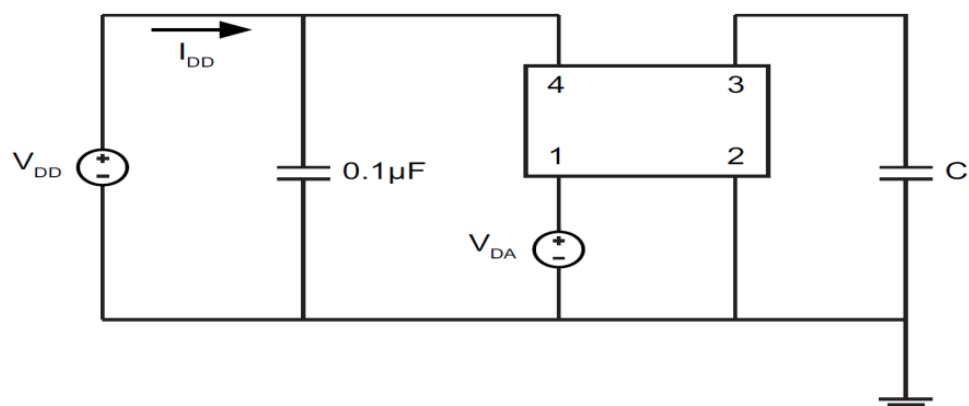
The AMJD Series is available in multiple output driver configurations. The standard-drive and high-drive deliver respective output currents of greater than 3 mA and 6 mA at 20% to 80% of the supply voltage. For loads of 15 pF or higher, the high-drive option is recommended.

## DIAGRAMS

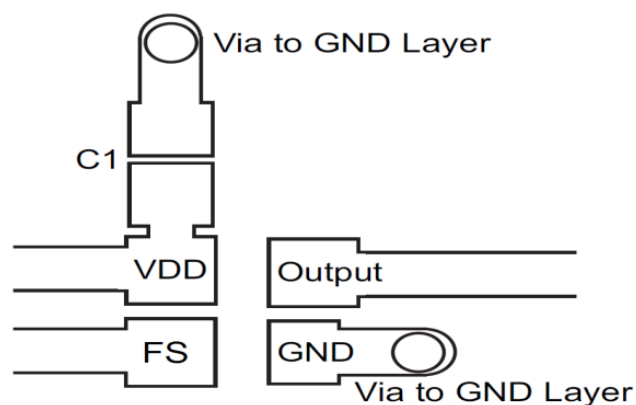
### Output Waveform



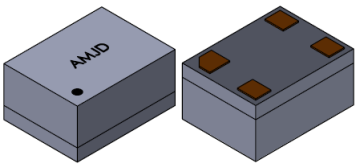
### Test Circuit



### Recommended Board Layout



# FREQUENCY SELECTABLE MEMS OSCILLATORS



AMJD-SERIES



ESD Sensitive



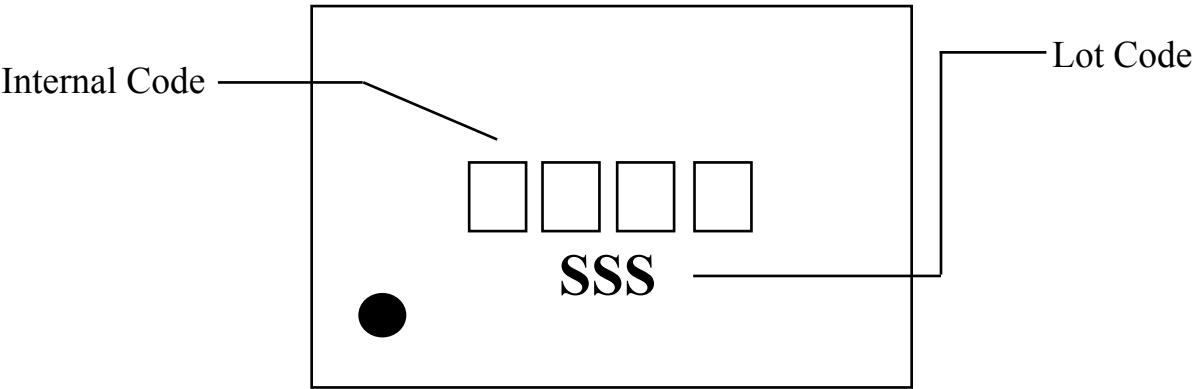
RoHS/RoHS II Compliant

MSL = MSL 1

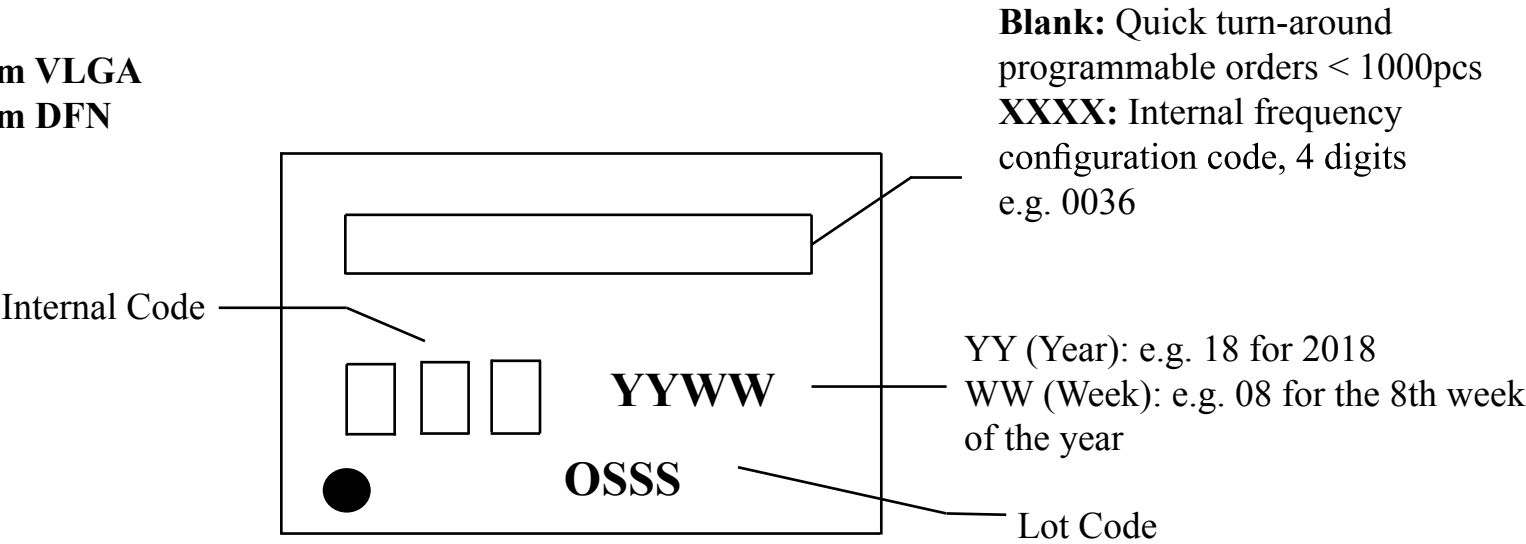
1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## MARKING

1.6 mm x 1.2 mm VFLGA  
2.0 mm x 1.6 mm VFLGA



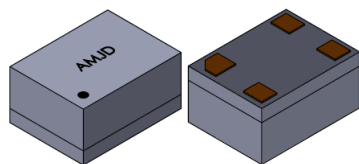
2.5 mm x 2.0 mm VLGA  
3.2 mm x 2.5 mm DFN



**Blank:** Quick turn-around  
programmable orders < 1000pcs  
**XXXX:** Internal frequency  
configuration code, 4 digits  
e.g. 0036

YY (Year): e.g. 18 for 2018  
WW (Week): e.g. 08 for the 8th week  
of the year

# FREQUENCY SELECTABLE MEMS OSCILLATORS



AMJD-SERIES



ESD Sensitive



RoHS/RoHS II Compliant

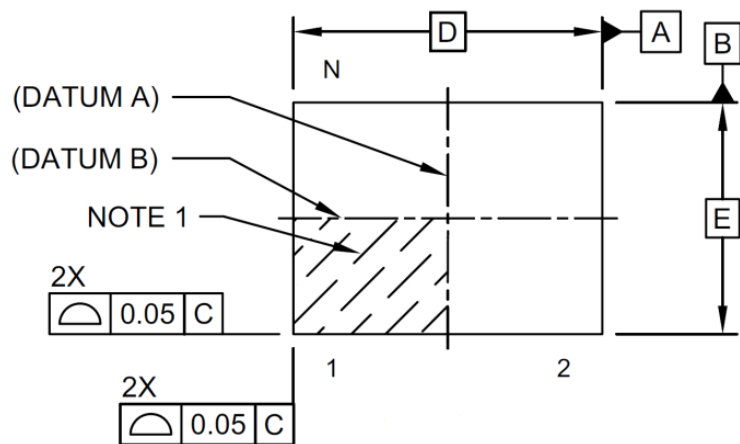
MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

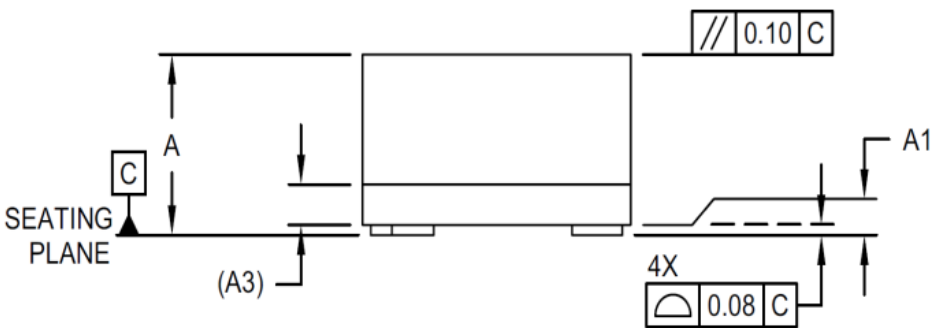
## MECHANICAL DIMENSIONS

### 1.6 x 1.2 mm VFLGA Package Outline

#### Top View

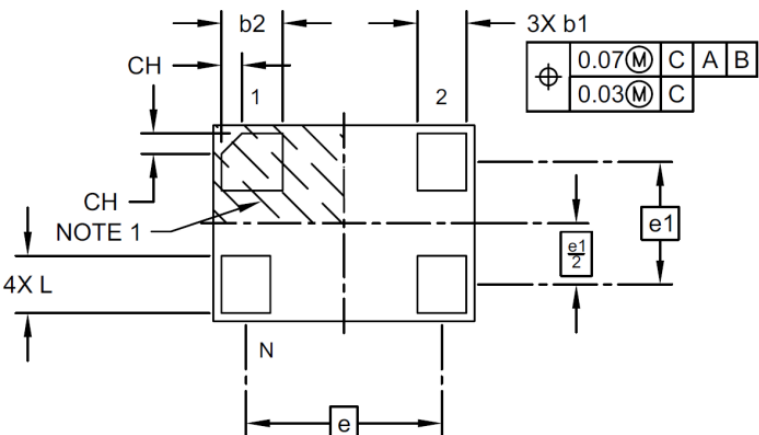


#### Side View



| Description                          | Marker | Dimensions (mm) |
|--------------------------------------|--------|-----------------|
| Number of Terminals                  | N      | 4               |
| Terminal Pitch                       | e      | 1.20 BSC        |
| Terminal Pitch                       | e1     | 0.75 BSC        |
| Overall Height                       | A      | 0.84 ± 0.05     |
| Standoff*                            | A1     | .02             |
| Substrate Thickness (with Terminals) | A3     | 0.20REF         |
| Overall Length                       | D      | 1.60BSC         |
| Overall Width                        | E      | 1.20BSC         |
| Terminal Width                       | b1     | 0.30 ± 0.05     |
| Terminal Width                       | b2     | 0.375 ± 0.05    |
| Terminal Length                      | L      | 0.35 ± 0.05     |
| Terminal 1 Index Chamfer             | CH     | 0.125           |

#### Bottom View



\*Standoff max .05 mm and min 0.00 mm

Dimensioning and tolerance per ASME Y14.5M  
BSC: Basic Dimension. Theoretically exact value shown without tolerances  
REF: Reference Dimension, usually without tolerance, for information purposes only

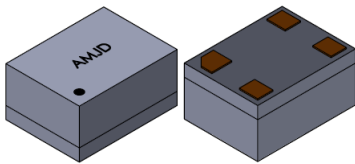


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ESD Sensitive



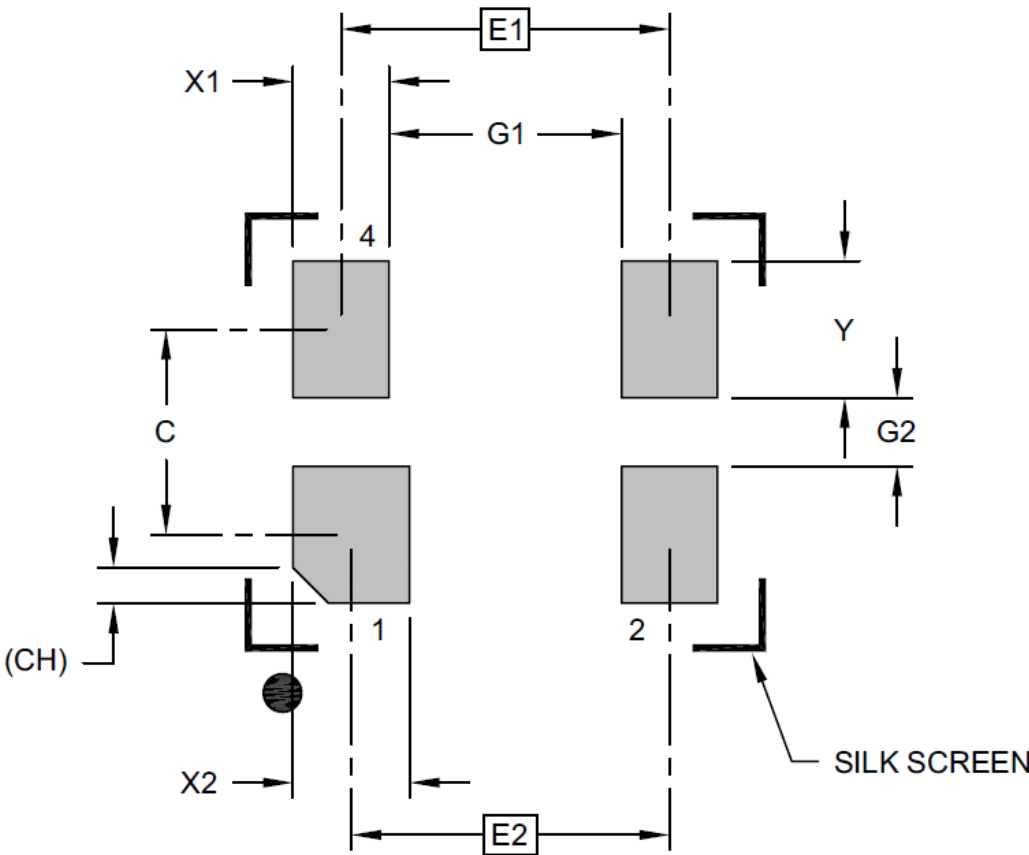
RoHS/RoHS II Compliant

MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## MECHANICAL DIMENSIONS

### Recommended Landing Pattern



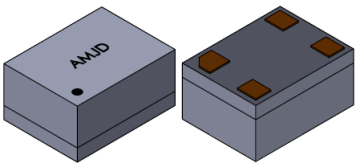
| Description             | Marker | Max            | Typ  | Max  | Unit |
|-------------------------|--------|----------------|------|------|------|
| Contact Pitch           | E1     | 1.20 BSC       |      |      | mm   |
| Contact Pitch           | E2     | 1.16 BSC       |      |      |      |
| Contact Spacing         | C      |                | 0.75 |      |      |
| Contact Width           | X1     |                |      | 0.35 |      |
| Contact Width           | X2     |                |      | 0.43 |      |
| Contact Pad Length      | Y      |                |      | 0.50 |      |
| Space Between Contacts  | G1     | 0.85           |      |      |      |
| Space Between Contacts  | G2     | 0.25           |      |      |      |
| Contact 1 Index Chamfer | CH     | 0.13 x 45° REF |      |      |      |

Dimensioning and tolerance per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances

REF: Reference Dimension, usually without tolerance, for information purposes only

# FREQUENCY SELECTABLE MEMS OSCILLATORS



AMJD-SERIES



ESD Sensitive



RoHS/RoHS II Compliant

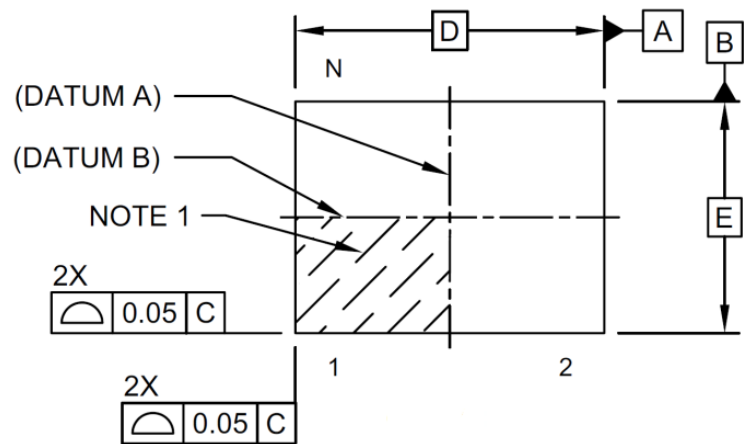
MSL = MSL 1

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2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

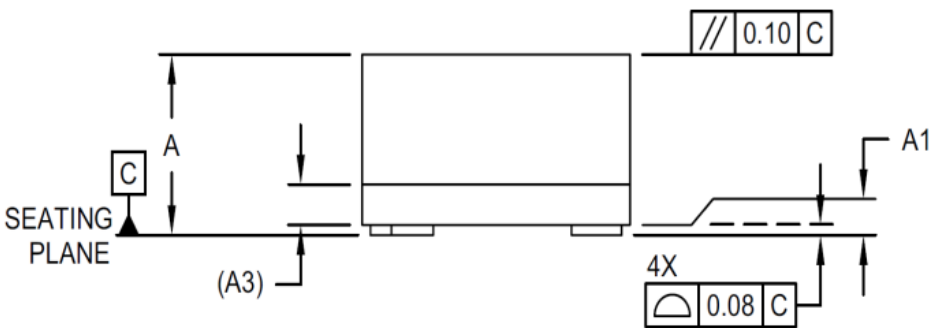
## MECHANICAL DIMENSIONS

### 2.0 x 1.6 mm VFLGA Package Outline

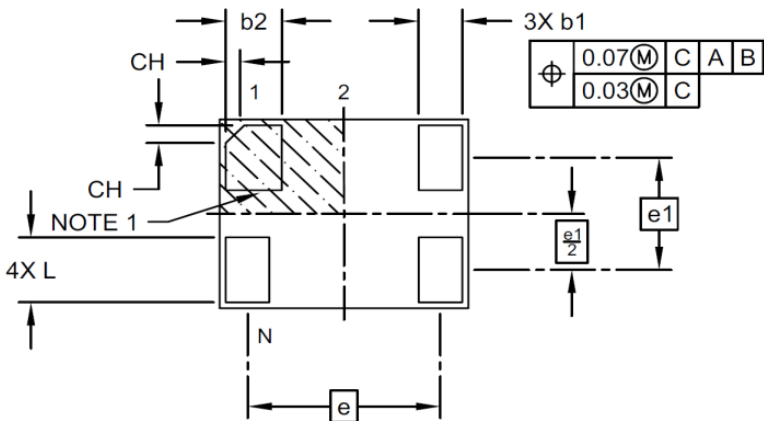
#### Top View



#### Side View



#### Bottom View

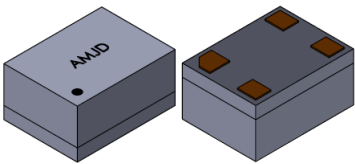


| Description                          | Marker | Dimensions (mm) |
|--------------------------------------|--------|-----------------|
| Number of Terminals                  | N      | 4               |
| Terminal Pitch                       | e      | 1.55 BSC        |
| Terminal Pitch                       | e1     | 0.95 BSC        |
| Overall Height                       | A      | 0.84 ± 0.05     |
| Standoff*                            | A1     | .02             |
| Substrate Thickness (with Terminals) | A3     | 0.20 REF        |
| Overall Length                       | D      | 2.00 BSC        |
| Overall Width                        | E      | 1.60 BSC        |
| Terminal Width                       | b1     | 0.35 ± 0.05     |
| Terminal Width                       | b2     | 0.45 ± 0.05     |
| Terminal Length                      | L      | 0.55 ± 0.05     |
| Terminal 1 Index Chamfer             | CH     | 0.15            |

\*Standoff max .05 mm and min 0.00 mm

Dimensioning and tolerance per ASME Y14.5M  
BSC: Basic Dimension. Theoretically exact value shown without tolerances  
REF: Reference Dimension, usually without tolerance, for information purposes only

# FREQUENCY SELECTABLE MEMS OSCILLATORS



AMJD-SERIES



ESD Sensitive



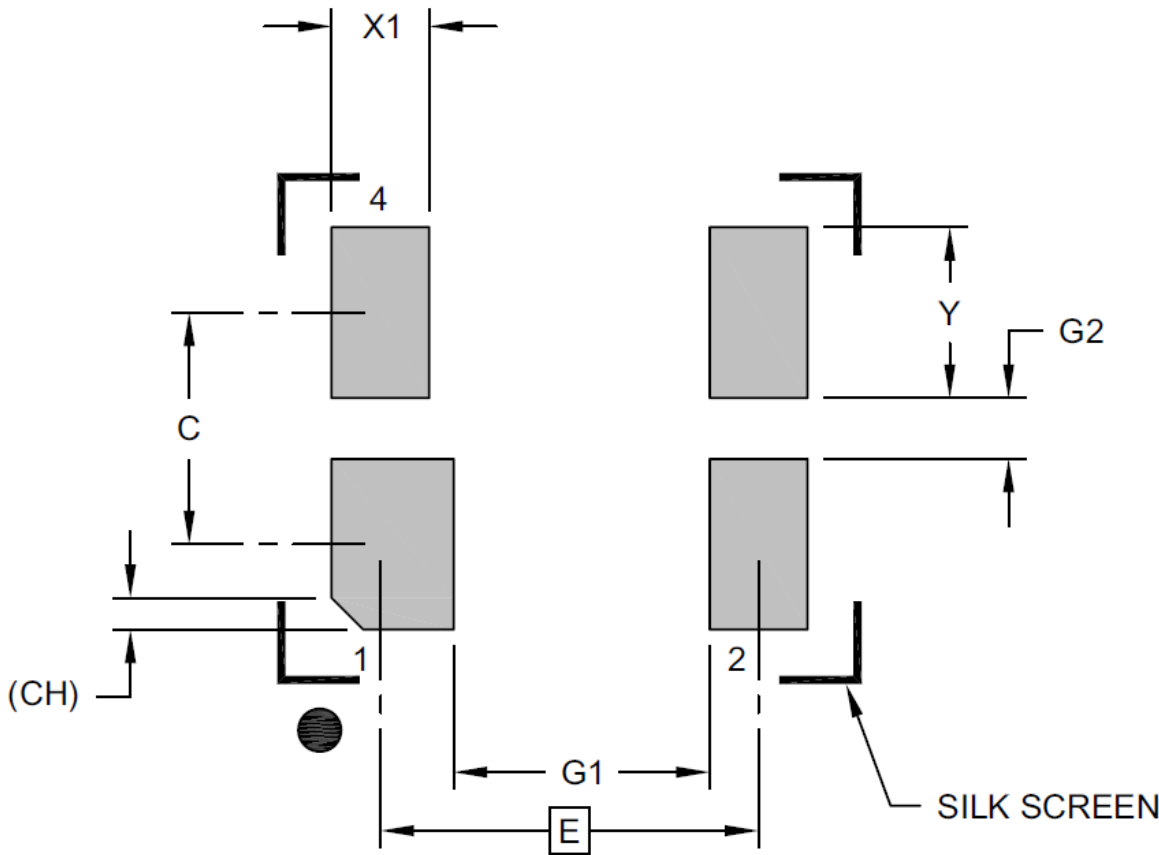
RoHS/RoHS II Compliant

MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## MECHANICAL DIMENSIONS

### Recommended Landing Pattern



| Description             | Marker | Max            | Typ  | Max  | Unit |
|-------------------------|--------|----------------|------|------|------|
| Contact Pitch           | E2     | 1.55 BSC       |      |      | mm   |
| Contact Spacing         | C      |                | 0.95 |      |      |
| Contact Width           | X1     |                |      | 0.50 |      |
| Contact Width           | X2     |                |      | 0.40 |      |
| Contact Pad Length      | Y      |                |      | 0.70 |      |
| Space Between Contacts  | G1     | 1.05           |      |      |      |
| Space Between Contacts  | G2     | 0.25           |      |      |      |
| Contact 1 Index Chamfer | CH     | 0.13 x 45° REF |      |      |      |

Dimensioning and tolerance per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances

REF: Reference Dimension, usually without tolerance, for information purposes only



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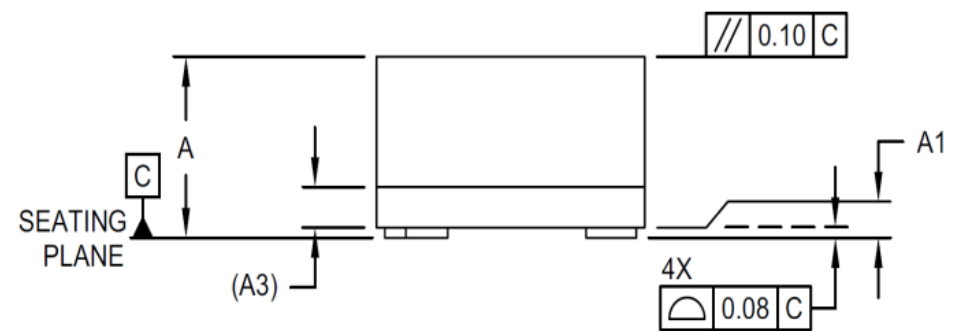
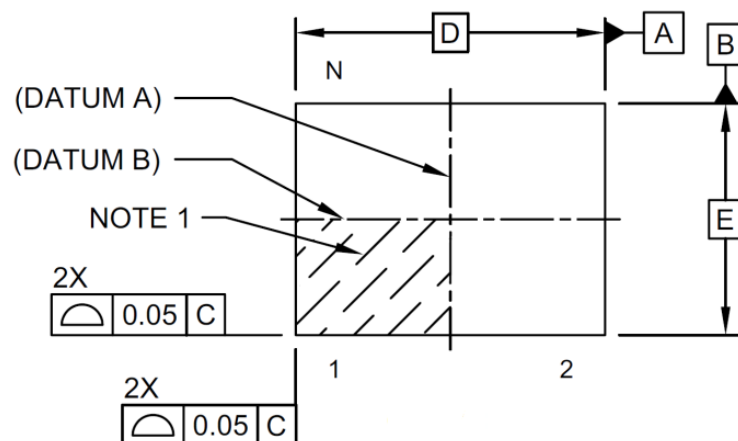
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$$\text{MSL} = \text{MSL } 1$$

## 2.5 x 2.0 mm VLGA Package Outline

### Side View



|          |          |   |   |   |
|----------|----------|---|---|---|
| $\oplus$ | 0.07 (M) | C | A | B |
|          | 0.03 (M) | C |   |   |

| Description                          | Marker | Dimensions (mm) |
|--------------------------------------|--------|-----------------|
| Number of Terminals                  | N      | 4               |
| Terminal Pitch                       | e      | 1.65 BSC        |
| Terminal Pitch                       | e1     | 1.25 BSC        |
| Overall Height                       | A      | 0.84 ± 0.05     |
| Standoff*                            | A1     | .02             |
| Substrate Thickness (with Terminals) | A3     | 0.20REF         |
| Overall Length                       | D      | 2.50BSC         |
| Overall Width                        | E      | 2.00BSC         |
| Terminal Width                       | b1     | 0.65± 0.05      |
| Terminal Length                      | L      | 0.65 ± 0.05     |
| Terminal 1 Index Chamfer             | CH     | 0.225           |

Dimensioning and tolerance per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances  
REF: Reference Dimension, usually without tolerance, for information purposes only

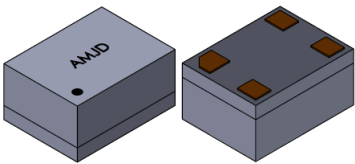


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AMJD-SERIES



ESD Sensitive



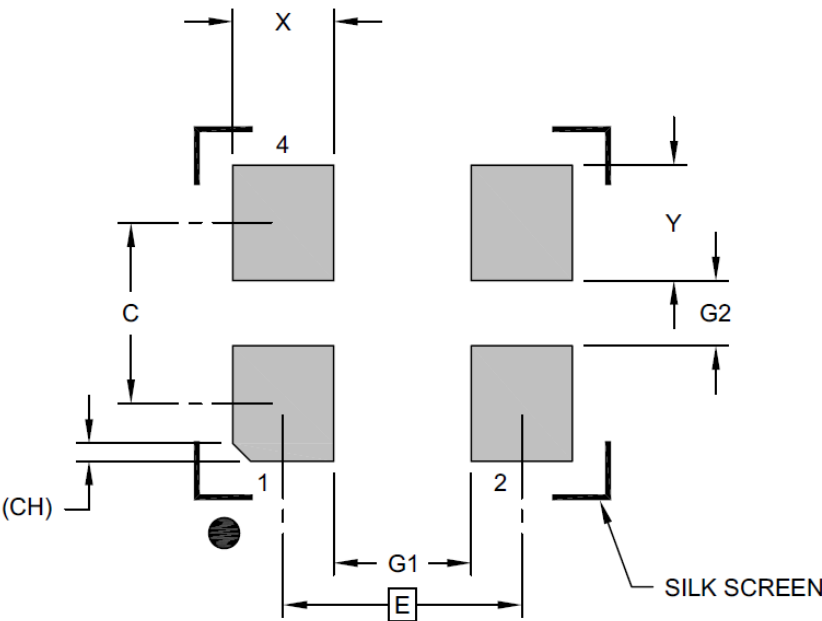
RoHS/RoHS II Compliant

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

MSL = MSL 1

## MECHANICAL DIMENSIONS

### Recommended Landing Pattern



| Description             | Marker | Max            | Typ  | Max  | Unit |
|-------------------------|--------|----------------|------|------|------|
| Contact Pitch           | E      | 1.65 BSC       |      |      | mm   |
| Contact Spacing         | C      |                | 1.25 |      |      |
| Contact Width           | X1     |                |      | 0.70 |      |
| Contact Width           | X2     |                |      | 0.80 |      |
| Contact Pad Length      | Y      |                |      | 0.50 |      |
| Space Between Contacts  | G1     | 0.95           |      |      |      |
| Space Between Contacts  | G2     | 0.45           |      |      |      |
| Contact 1 Index Chamfer | CH     | 0.13 x 45° REF |      |      |      |

Dimensioning and tolerance per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances

REF: Reference Dimension, usually without tolerance, for information purposes only

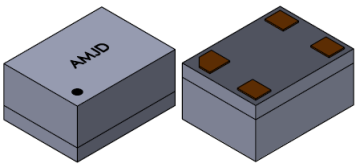


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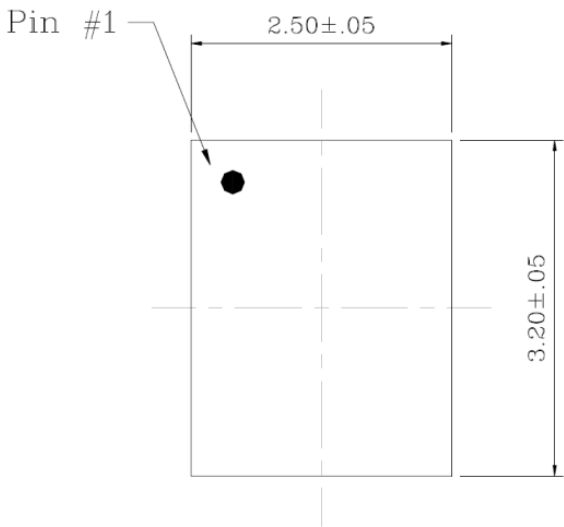
MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

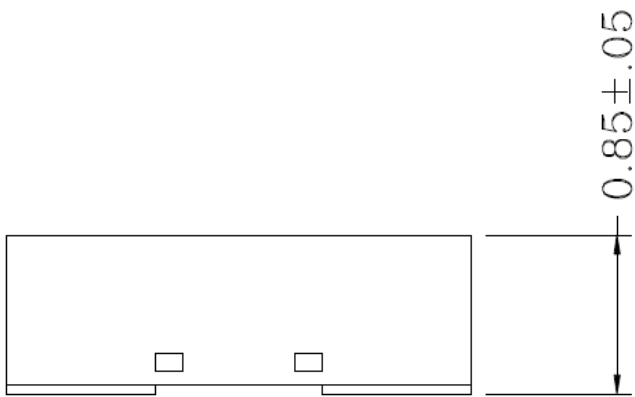
## MECHANICAL DIMENSIONS

### 3.2 x 2.5 mm DFN Package Outline

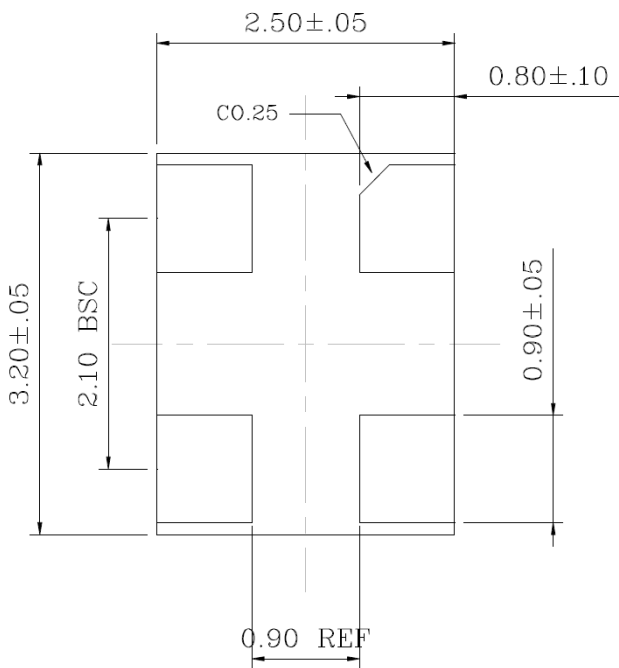
#### Top View



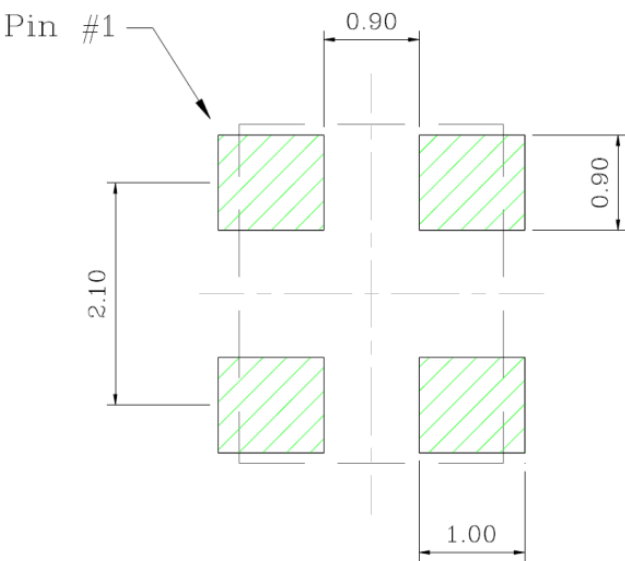
#### Side View



#### Bottom View

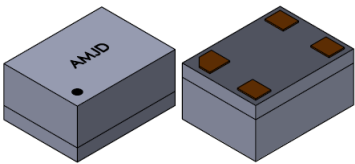


#### Recommended Landing Pattern



Dimensions : mm

# FREQUENCY SELECTABLE MEMS OSCILLATORS



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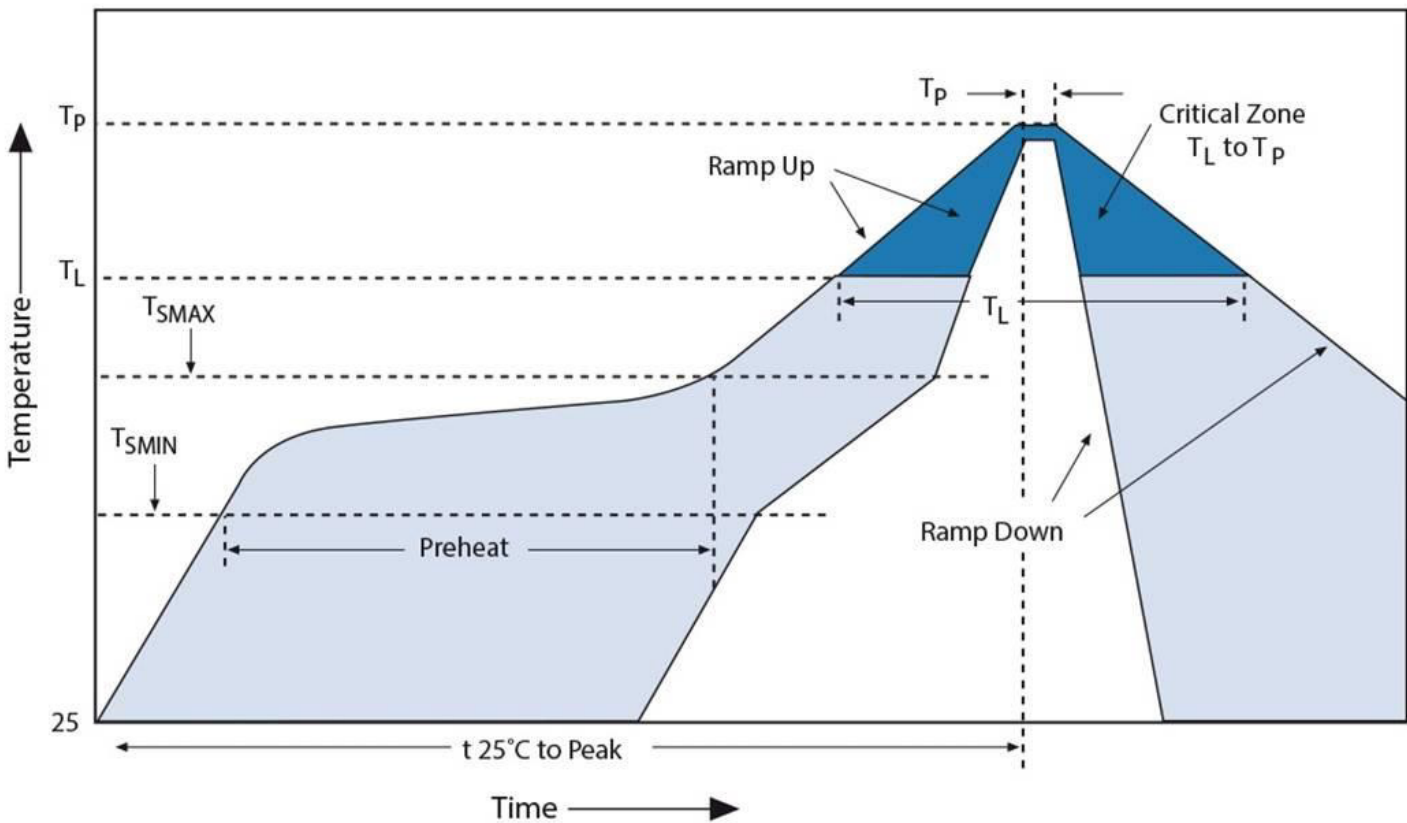


RoHS/RoHS II Compliant

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

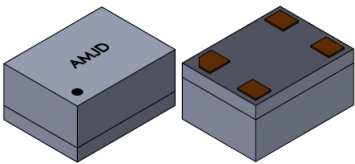
MSL = MSL 1

## REFLOW PROFILE



| Zone | Description    | Temperature                               | Time            |
|------|----------------|-------------------------------------------|-----------------|
| 1    | Preheat / Soak | $T_{SMIN} \sim T_{SMAX}$<br>150°C ~ 200°C | 60 ~ 180 sec.   |
| 2    | Reflow         | $T_L$<br>217°C                            | 60 ~ 150 sec.   |
| 3    | Peak heat      | $T_P$<br>255°C - 260°C                    | 20-40 sec. MAX. |

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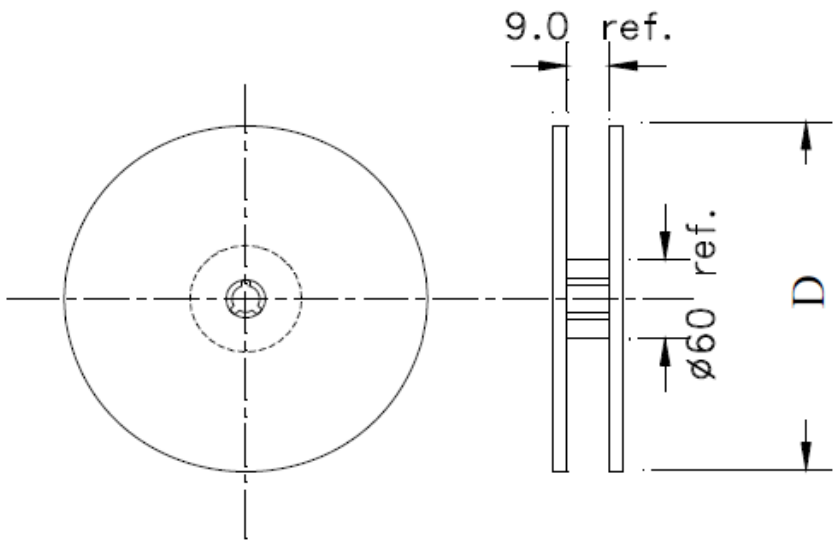
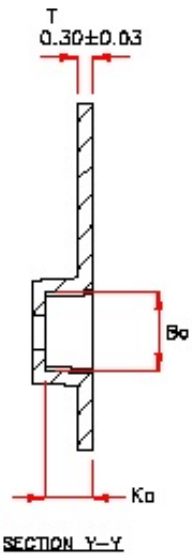
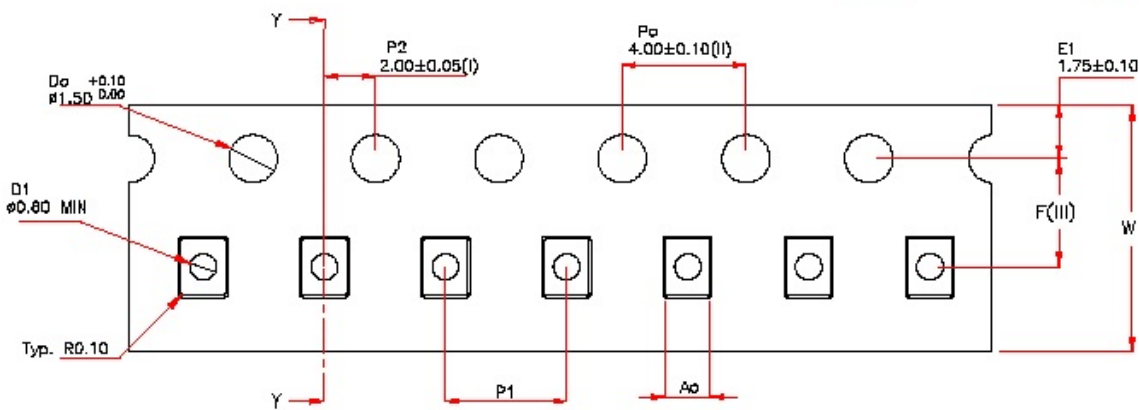
MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## PACKAGING

Bulk MOQ= 100pcs/Bag\*  
T= 1,000pcs/reel (D=180mm)  
T3= 3,000pcs/reel (D=180mm)

Affected Package Size:  
1.6 mm x 1.2 mm VFLGA



|                |                  |
|----------------|------------------|
| A <sub>0</sub> | 1.40 ± 0.05      |
| B <sub>0</sub> | 1.80 ± 0.05      |
| K <sub>0</sub> | 1.05 ± 0.05      |
| F              | 3.50 ± 0.05      |
| P <sub>1</sub> | 4.00 ± 0.10      |
| W              | 8.00 +0.30/-0.10 |

### Dimensions : mm

\* For Quick turn-around programmable sample orders less than MOQ represented above:  
Due to the immediate availability of stock and the qty of the order, the parts may be delivered as Cut Tape,  
Loose parts in Antistatic Bag or in Tube(s).

For orders equal to or greater than MOQ and less than 1000pcs:  
Due to packaging, the order must be a multiple of MOQ per package size above

For orders equal to or greater than 1000pcs:  
Bulk is not an option. Please refer to tape and reel packaging.

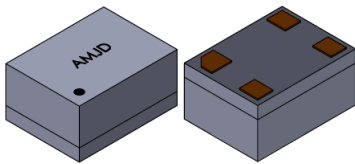


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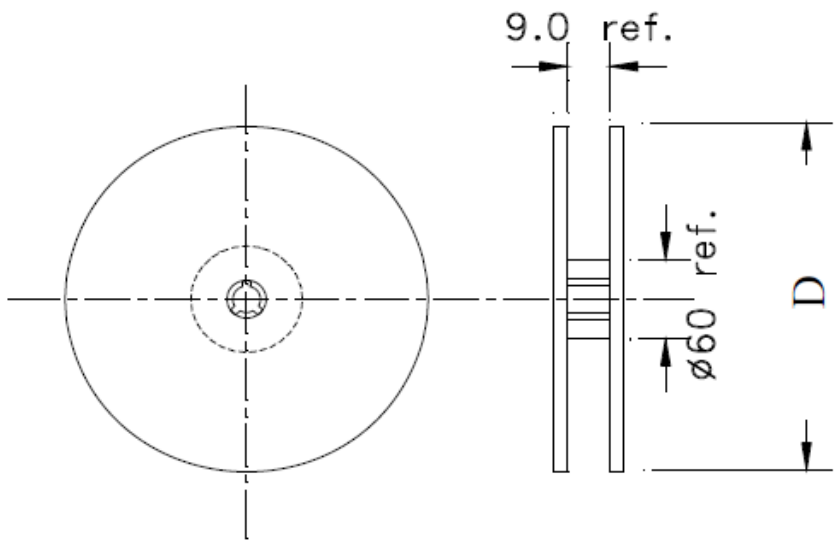
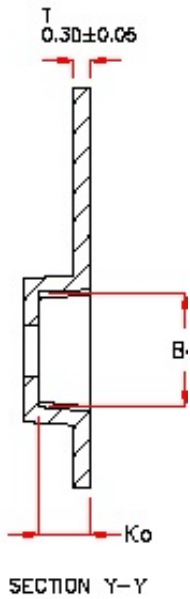
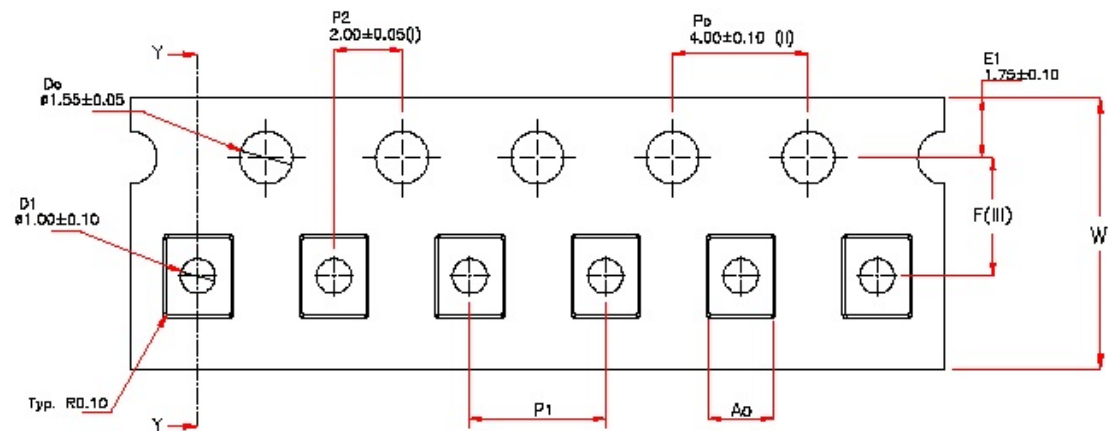
MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## PACKAGING

Bulk MOQ= 100pcs/Bag\*  
T= 1,000pcs/reel (D=180mm)  
T3= 3,000pcs/reel (D=180mm)

Affected Package Sizes:  
2.0 mm x 1.6 mm VFLGA



|       |                    |
|-------|--------------------|
| $A_0$ | $1.90 \pm 0.05$    |
| $B_0$ | $2.30 \pm 0.05$    |
| $K_0$ | $1.05 \pm 0.05$    |
| F     | $3.50 \pm 0.05$    |
| $P_1$ | $4.00 \pm 0.10$    |
| W     | $8.00 +0.30/-0.10$ |

### Dimensions : mm

\* For Quick turn-around programmable sample orders less than MOQ represented above:  
Due to the immediate availability of stock and the qty of the order, the parts may be delivered as Cut Tape,  
Loose parts in Antistatic Bag or in Tube(s).

For orders equal to or greater than MOQ and less than 1000pcs:  
Due to packaging, the order must be a multiple of MOQ per package size above

For orders equal to or greater than 1000pcs:  
Bulk is not an option. Please refer to tape and reel packaging.

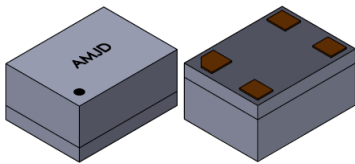


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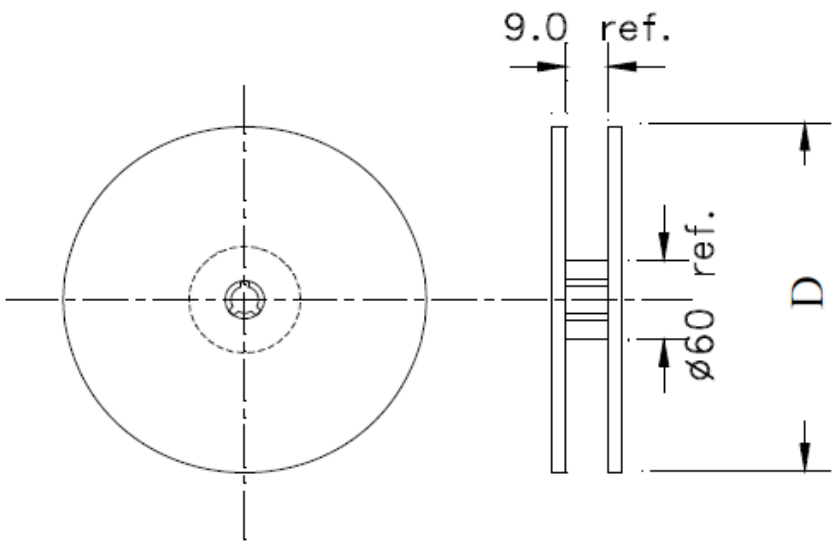
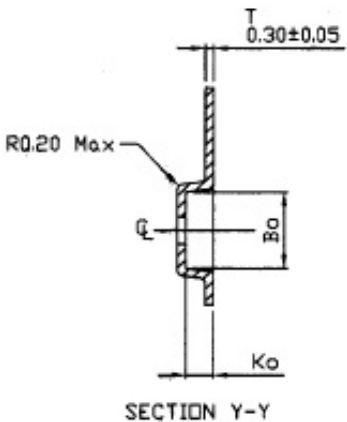
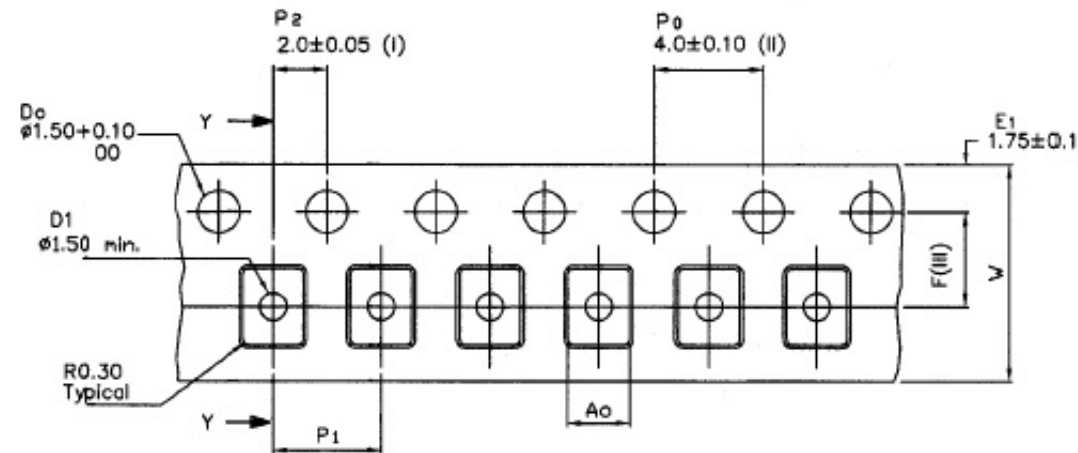
1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

MSL = MSL 1

## PACKAGING

Bulk MOQ= 140pcs/Tube\*  
T= 1,000pcs/reel (D=180mm)  
T3= 3,000pcs/reel (D=180mm)

Affected Package Sizes:  
2.5 mm x 2.0 mm VLGA



|                |                  |
|----------------|------------------|
| A <sub>0</sub> | 2.25± 0.05       |
| B <sub>0</sub> | 2.80± 0.05       |
| K <sub>0</sub> | 1.10 ± 0.05      |
| F              | 3.50 ± 0.05      |
| P <sub>1</sub> | 4.00 ± 0.10      |
| W              | 8.00 +0.30/-0.10 |

### Dimensions : mm

\* For Quick turn-around programmable sample orders less than MOQ represented above:  
Due to the immediate availability of stock and the qty of the order, the parts may be delivered as Cut Tape,  
Loose parts in Antistatic Bag or in Tube(s).

For orders equal to or greater than MOQ and less than 1000pcs:  
Due to packaging, the order must be a multiple of MOQ per package size above

For orders equal to or greater than 1000pcs:  
Bulk is not an option. Please refer to tape and reel packaging.

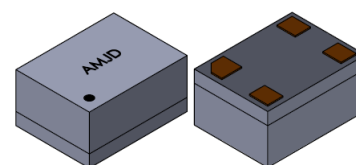


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RoHS/RoHS II Compliant

MSL = MSL 1

1.6 x 1.2 x 0.84 mm  
2.0 x 1.6 x 0.84 mm  
2.5 x 2.0 x 0.84 mm  
3.2 x 2.5 x 0.85 mm

## PACKAGING

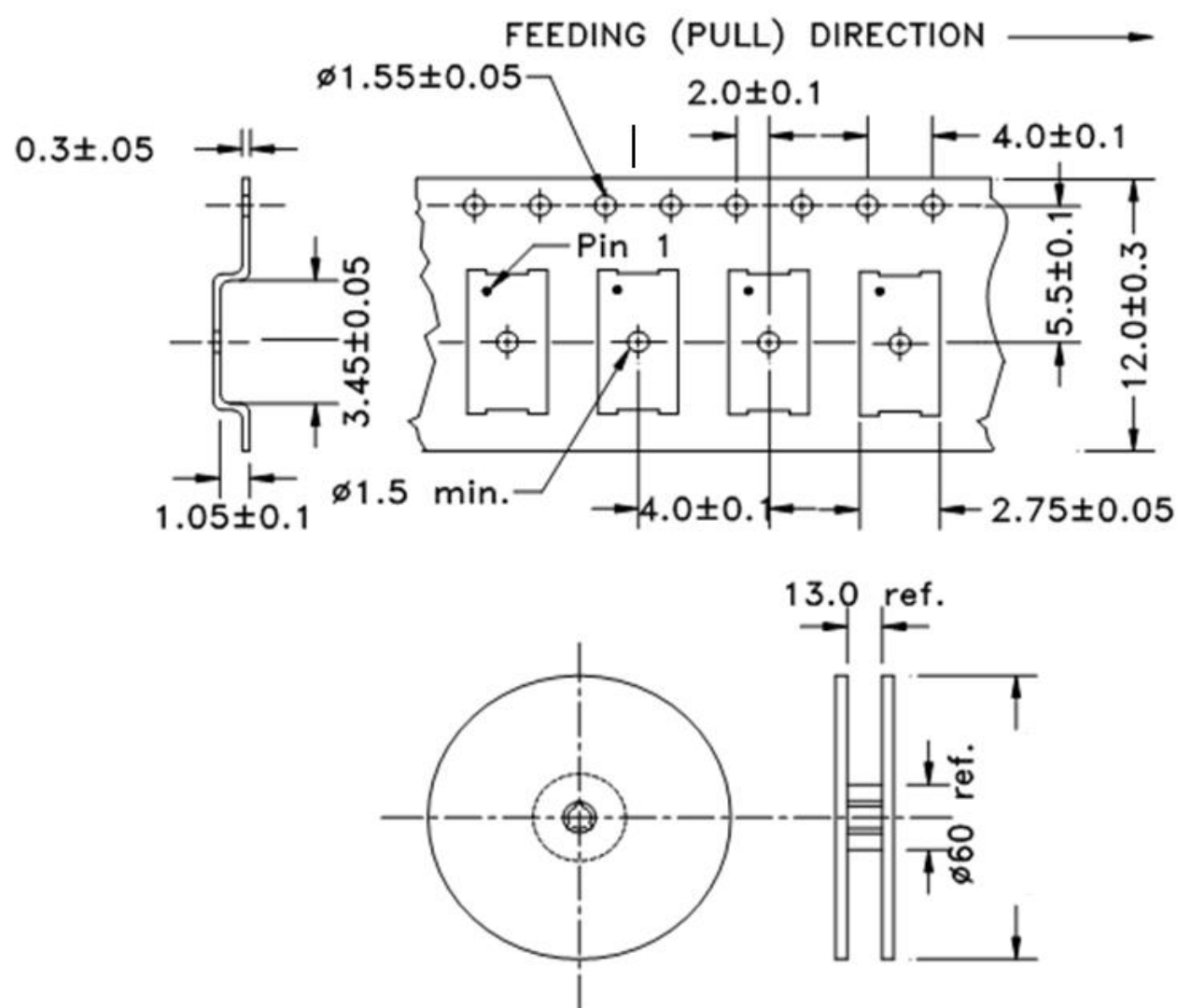
Bulk MOQ= 110pcs/Tube\*

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

T3= 3,000pcs/reel (D=180mm)

Affected Package Sizes:

3.2 mm x 2.5 mm DFN



## Dimensions : mm

\* For Quick turn-around programmable sample orders less than MOQ represented above:

Due to the immediate availability of stock and the qty of the order, the parts may be delivered as Cut Tape, Loose parts in Antistatic Bag or in Tube(s).

For orders equal to or greater than MOQ and less than 1000pcs:

Due to packaging, the order must be a multiple of MOQ per package size above

For orders equal to or greater than 1000pcs:

Bulk is not an option. Please refer to tape and reel packaging.



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