

SEMI G6-89

TEST METHOD FOR SEAL RING FLATNESS

This Standard was technically approved by the Assembly & Packaging Global Technical Committee.

NOTICE: This Standard or Safety Guideline has an Inactive Status because the conditions to maintain Current Status have not been met. Inactive Standards or Safety Guidelines are available from SEMI and continue to be valid for use.

1 Purpose

1.1 This Specification covers the method for determining the maximum deviation between the seal ring and a reference plane defined by three fixed points on the seal ring. This method will not work on parts smaller than 0.330 in. $\times$ 0.330 in.

2 Equipment

2.1 Flat plate (black granite calibrated at ± 0.000025 in. (± 0.000835 mm) or equivalent).

2.2 *Fixture Clamps* — Three required (see Figure 1).

2.3 *Fixture Base* — See Figure 1.

2.4 *Test Indicator* — Hamilton Kwik Check or equivalent.

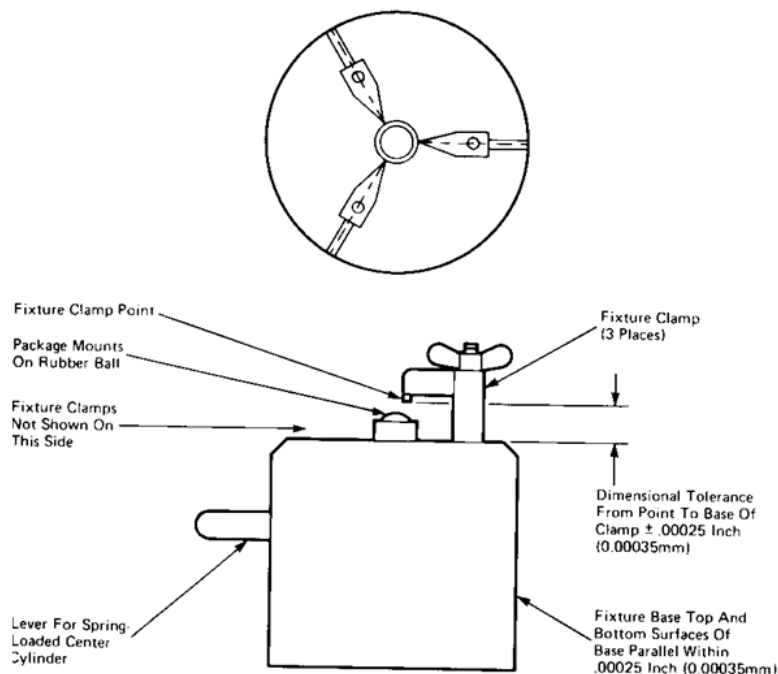


Figure 1
Fixture Base and Clamp Assembly

3 Preparation

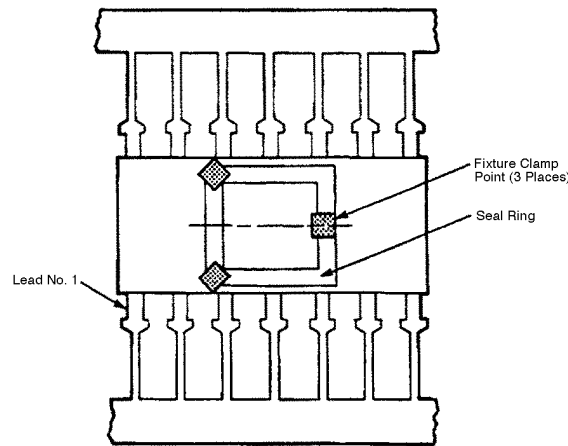
3.1 Fixture clamps shall be adjusted for part to be measured (see Figure 2).

3.2 The gaging fixture is to be calibrated with a precision ground gage block before each sample is measured.

3.2.1 Place gage block under the three fixture clamp points and release center cylinder to hold in place.

3.2.2 Position fixture base so the point of the test indicator is on the gage block.

3.2.3 Move fixture base so the point of the test indicator traverses the entire surface of the gage block. The total deviation read on the test indicator shall not exceed 0.0005 in. (0.013 mm).



Fixture clamp points aligned on seal ring diagonals on end closest to lead No. 1 and on ceramic center line opposite end. Points aligned on diagonals shall not extend beyond the outside corners of the seal ring. Point aligned on the centerline shall not extend beyond the outside edge of the seal ring.

Figure 2
Fixture Clamp Orientation

4 Procedure

4.1 Place the package under the three fixture clamp points and release cylinder to hold in place (see Figure 2) for orientation of package seal ring and fixture clamp points.

4.2 Position fixture base so the point of the test indicator is on the package seal ring.

4.3 Move fixture base so the point of the test indicator traverses the length of the seal ring.

4.3.1 Move fixture base so the point of the test indicator stays in the middle of the seal ring.

4.3.2 Test indicator shall be relocated twice to get around fixture points.

5 Evaluation

5.1 If material buildup on the seal ring is visible with the unaided eye, the part shall not be used for this measurement.

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