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## INDIVIDUAL PACKAGE BEAM-LEAD DEVICES

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### **1.0 SCOPE**

This standard provides for individual packaging of beam-lead devices in carriers for facilitating automated handling, screening, and testing.

### **2.0 REFERENCES**

- 2.1 Lockheed Packaging Standard LPS 40-001

### **3.0 REQUIREMENTS**

#### **3.1 GENERAL**

- 3.1.1 The unit package (carrier) base and cover shall not adversely affect the electrical or mechanical behavior of the beam-leaded device.
- 3.1.2 The quantity per unit package shall be one (1) each.
- 3.1.3 Devices shall be packaged and packed in microelectronic environmental control areas.
- 3.1.4 Each device shall be oriented in the proper carrier providing the required metalization for that type of device.
- 3.1.5 Shipments of beam-lead devices from different lots shall not be intermixed within the same intermediate package(s).
- 3.1.6 The carrier configuration shall be in accordance with Figure 1.
- 3.1.7 Selection of the proper carrier interconnect for each type of beam-lead device shall be in accordance with the device documentation.

#### **3.2 UNIT PACKAGING**

- 3.2.1 Insert each beam-lead device in the proper carrier (Figure 2 and Figure 3) so that the backside of the device beam (platinum side) makes electrical contact with the interconnect trace.
- 3.2.2 The pin assignments defining the connection of leads of devices to car-carrier interconnect trace shall be in accordance with this standard and the device documentation.
- 3.2.3 Place the cover (Figure 4) on top of the device and assure that the center hole of the cover is positioned over the device. Insert the retainer clip (Figure 4).

#### **3.3 INTERMEDIATE PACKAGING**

- 3.3.1 Insert unit packaged devices in a magazine (Figure 6). The magazine length shall not exceed 12-1/2 inches. When the magazine is not filled to capacity, the friction follower shall be adjusted as required to keep carriers immobilized during handling/shipment. Enclose each magazine in a nylon 6 plastic or polyethylene bag (minimum .002-inch thick), evacuate excess air and close by heat sealing. Allow sufficient bag material to permit at least one additional reseal.

#### **3.4 PACKING**

- 3.4.1 Intermediate containers (bagged magazines) shall be wrapped individually in cellular plastic cushioning to a minimum thickness of 1 inch. A minimum of 2 inches of cushioning shall be used between the magazines and all inside walls of the shipping container.
- 3.4.2 Pack up to five intermediate containers uniformly into each corrugated fiberboard shipping container.
- 3.4.3 Shipping containers as packed, shall protect each beam-leaded device and carrier during ordinary handling and shipping and shall meet the minimum requirements of the common carriers for acceptance for safe transportation at the lowest rate to the point of delivery.
- 3.4.4 Enclose or attach a copy of packing slip to the shipping container.

**3.5 MARKING**

3.5.1 Unit Packaging Marking – The carrier base may contain the carrier base manufacturer’s name or trademark and the last three digits of the beam–lead device part number (Example, 811). The device manufacturer’s name, trademark, or logo must be marked on either the carrier base or retainer clip.

3.5.1.1 Mark or label the bottom of the retainer clip to show the part number, beam–lead device unique serial number, or traceability lot identification code number (Figure 5).

**NOTE:** Label thickness shall not exceed .003 inch.

3.5.1.2 The part number shall be abbreviated to the last three digits of the beam–lead device, a dash (–) and a single character type identification (1) (Example, 811–1).

3.5.1.3 When device serialization is not possible, the traceability lot identification code number or lot and subplot identity must be shown.

3.5.2 Intermediate Package Marking – The intermediate package (magazine) shall be labeled or marked and have clear visibility through the bag to show at least the part number per contracting document, traceability lot identification code number, quantity and supplier identity.

3.5.2.1 Label or mark the nylon or polyethylene bag “Open Only in Microelectronics Center”.

3.5.3 Shipping Container Marking – Label or mark each shipping container to show part number per contracting document, the LMSC contracting document number, supplier, destination, and quantity of parts. Label each package P–202 when applicable.

3.5.4 Special precautionary and handling markings shall be applied as required.

**4.0 QUALITY ASSURANCE**

4.1 Packaging shall be accomplished in such a manner as to prevent physical damage to, or degradation of the packaged items during delivery to the using activity.

**5.0 NOTES**

5.1 The following information is intended as a guide or aid to suppliers in meeting the requirements of this standard.

5.2 This standard provides minimum protection of devices specified in the procurement document, during shipment from supplier to LMSC. Unless otherwise specified, when a conflict exists between the packaging provisions of this standard and a detail item specification referenced in a contractual document the detail specification shall take precedence.

**6.0 REFERENCES**

**Commodity**

Box, Corrugated Fiberboard

Cushioning, Plastic Cellular

Microelectronics Label

Nylon 6 Film Bag

Magazine

**Military Commercial Specifications**

PPP–B–636

PPP–C–795, Sealed Air Corp., Kimberly Clark Corp.

LPS P–202

Commercial Polyamide (Heat Sealable)

Bunker Ramos, Richardson, TX

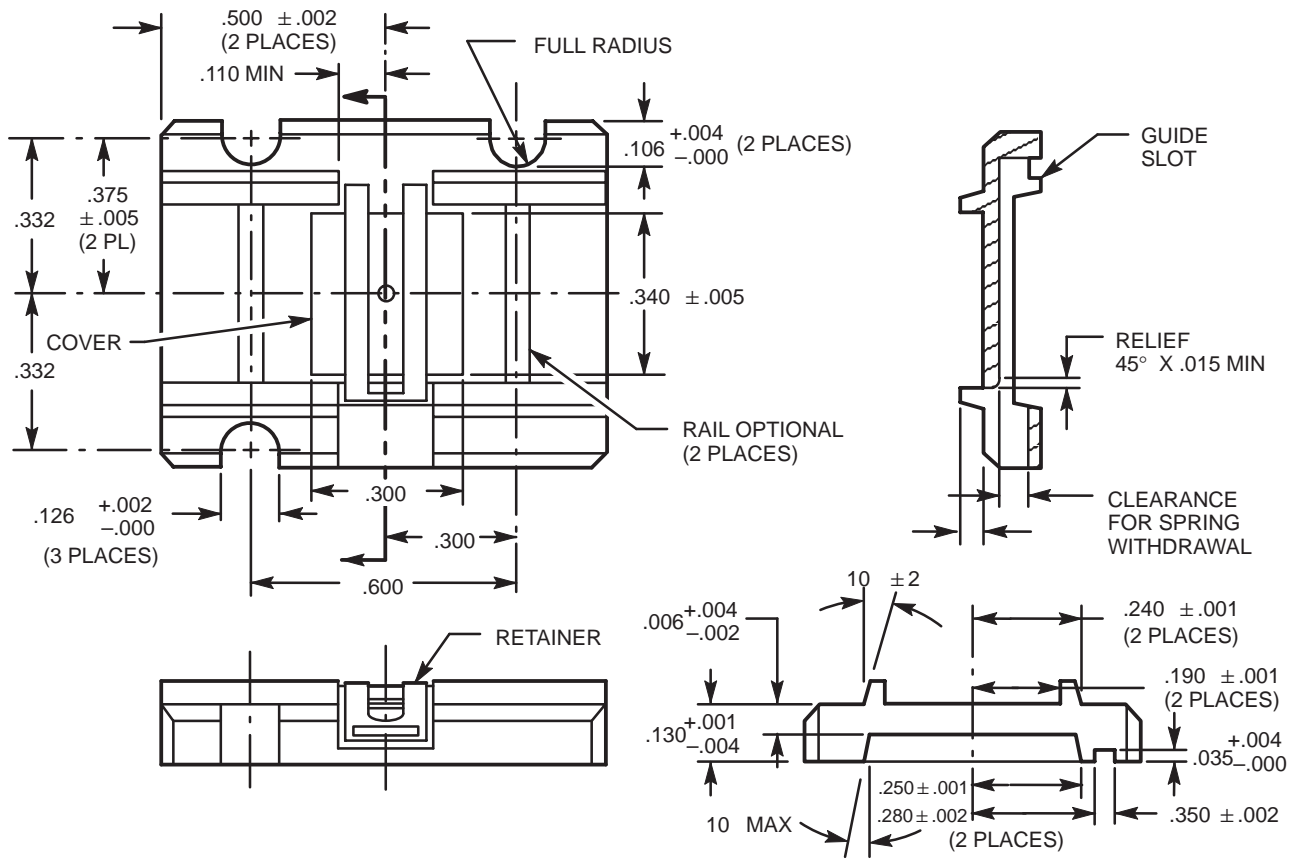


Figure 1. Microelectronic Beam-Lead Chip Carrier Assembly Outline

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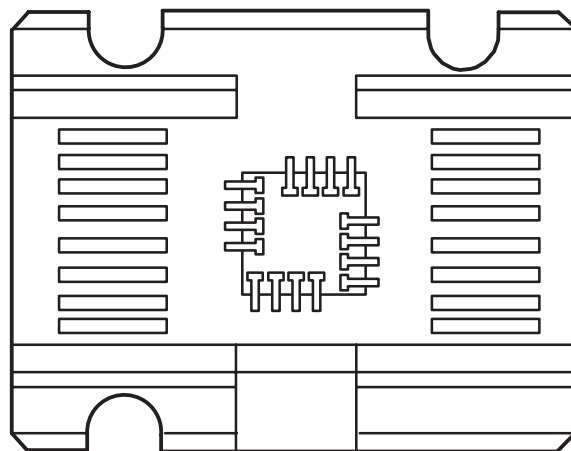


Figure 2. Sixteen-Beam Metallization Configuration

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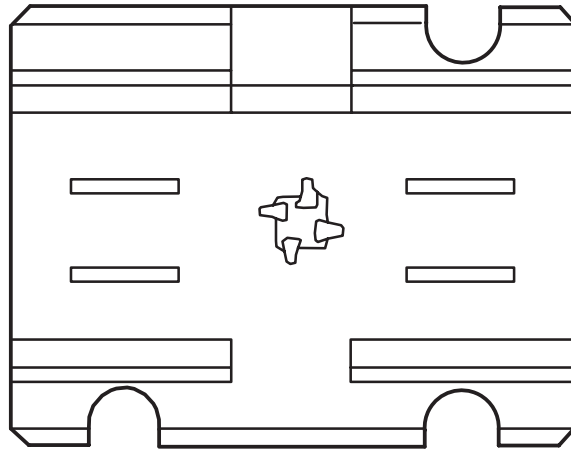


Figure 3. Four-Beam Metallization Configuration

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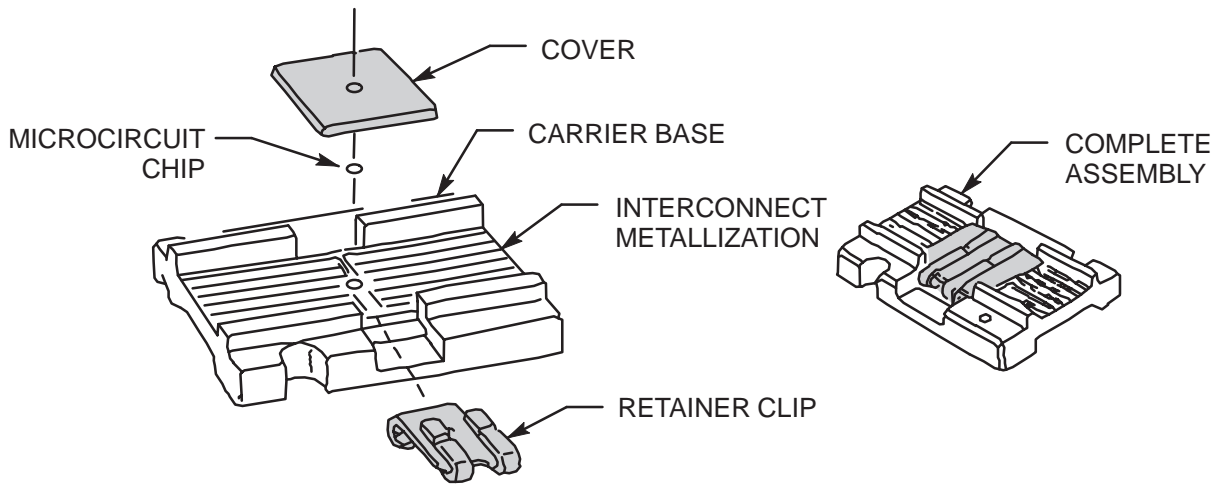


Figure 4. Method of Assembling Individual Microcircuit Chip and Carrier

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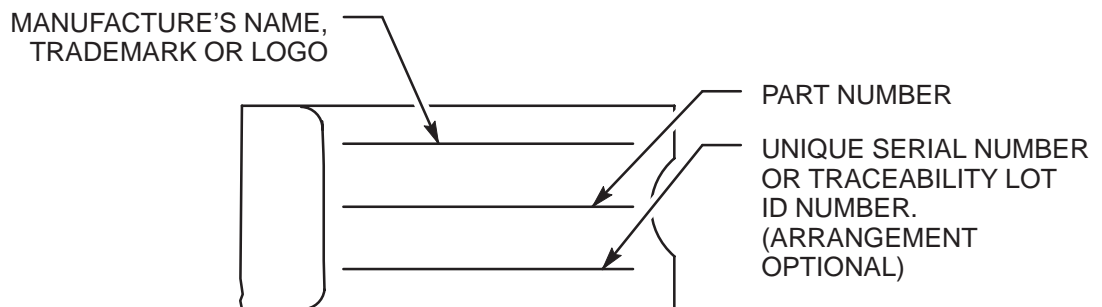


Figure 5. Marking on Bottom of Retainer Clip

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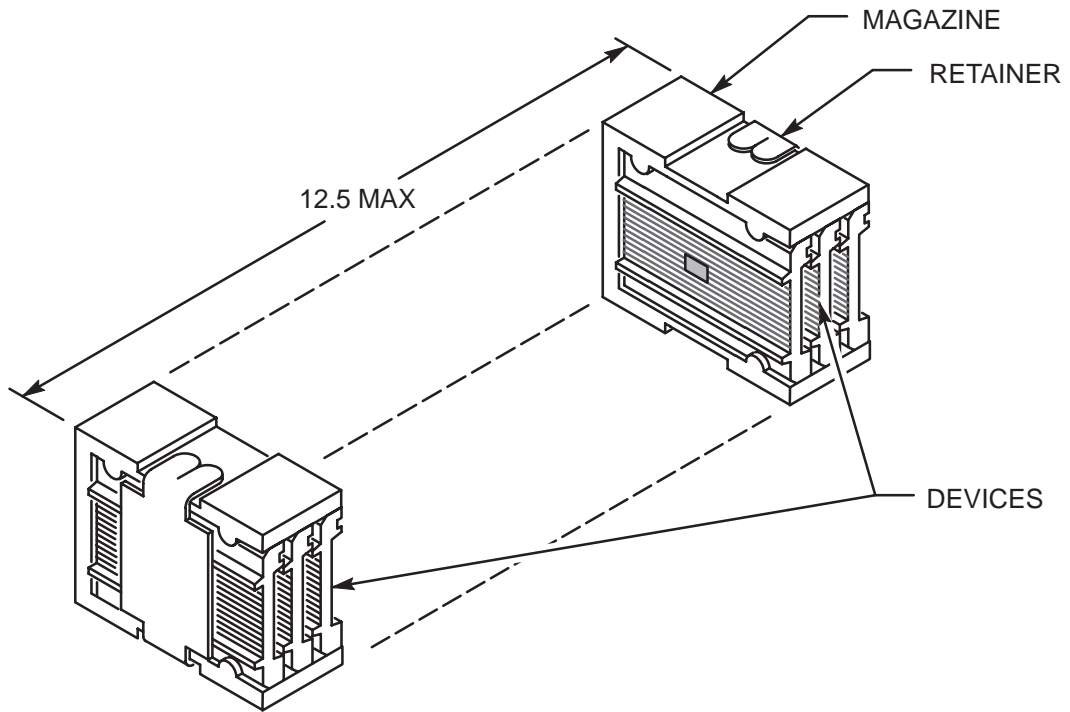


Figure 6. Carrier and Magazine Assembly