CLAIMS

What is claimed is:

1. A test probe assembly useful for testing a packaged integrated circuit (IC) device under test (DUT), the test probe assembly comprising:

a probe retainer having a plurality of probe retention cavities, and wherein the plurality of probe retention cavities are slanted relative to a vertical axis of the probe retainer;

a plurality of compressible probes configured to repeatedly maintain reliable electrical contact with a corresponding plurality of DUT contacts when under a vertical compliant force along the vertical axis of the probe retainer, each of the probes having a probe barrel which is contained within a corresponding one of the plurality of probe retention cavities, and oppositely extending upper and lower probe tips, and wherein at least one of the oppositely extending upper and lower probe tips of each of the probes being depressible in the probe barrel; and

wherein each of the upper probe tips includes an upper end section with a rectangular cross-section and a flat elongated chisel-shaped tip end, and wherein each of the probe retention cavities includes a corresponding rectangular cross-section aperture enabling the flat elongated chisel-shaped tip end to protrude from a top surface of the probe retainer, wherein the flat elongated chisel-shaped tip end is substantially parallel to an extended contact plane of one of the corresponding plurality of DUT contacts.

2. The test probe assembly of claim 1 wherein the chisel-shaped tip end is rounded.

3. The test probe assembly of claim 1 wherein the chisel-shaped tip end is chamfered.

4. The test probe assembly of claim 1 wherein the flat elongated chisel-shaped tip end provides a mechanical scraping action with the one of the corresponding plurality of DUT contacts when subject to the vertical compliant force, the flat elongated chisel-shaped tip end distributing the compliant force and extending the mechanical scraping action over the contact plane to minimize gouging of the one of the corresponding plurality of DUT contacts; and wherein each of the upper probe tips includes a mid-section adjacent to the upper end section, and wherein a diagonal of the rectangular cross-section of the upper end section is not greater than a diameter of around cross-section of the mid-section.

5. The test probe assembly of claim 1 wherein the lower probe tips are tapered, and wherein the probe assembly includes a lower block with a plurality of cylindrical channels for securing the lower probe tips.

6. The test probe assembly of claim 1 wherein a first subset of the plurality of probe retention cavities are opposingly slanted with respect to a second subset of the plurality of probe retention cavities.

7. The test probe assembly of claim 1 wherein chisel-shaped tip ends of a first subset of the plurality of probes are configured to be arranged at 90 degrees with respect to chisel-shaped tip ends of a second subset of the plurality of probes.