MIL-STD-883J w/CHANGE 5
1 June 2015
(extracted for reference)

3.3.6 Ball/column grid array leads.

a. Nonconformance with any design criteria (see 3.3.1c herein)

b. Solder columns/spheres off-center/skewed off the pad such that more than 20% of the bond pad fails to have coverage.

c. Broken, twisted or damaged solder columns/spheres. Damaged columns/spheres (scored, gouged) that fail to meet final dimensional requirements.

d. Solder column bends or misalignments that do not meet the drawing design criteria.

e. Solder columns/spheres containing any void, hole, pit, gouge or depression greater than 15% of the column/sphere diameter or volume. For voids, holes, pits less than 15% of the diameter or volume, the cumulative total shall be less than half of the column/sphere diameter.

f. Solder columns/spheres containing cracks.

g. Columns/spheres with burrs or bumps exceeding 20% of the column/sphere diameter.

h. Column/spheres that exhibit peeling, flaking or blistering.

i. Solder fillets failing to cover 100% of the column/sphere contact area with the pad.

j. For copper reinforced columns that exhibit any of the following:

    i. Copper ribbon delamination exceeding 25% around the column circumference.
    ii. Columns with copper wire having copper exposed. Exposed (cut) copper on the free end of the column is acceptable.

k. Discoloration of columns/spheres due to corrosion, crusting, or residual flux (there should be a consistent shiny solder appearance). Evidence of flux residue, stains, rust or signs of corrosion that can be seen at 3 to 10X magnification.

l. Foreign material, discoloration, or adherent deposits within 0.5mm of the free end of the column.

m. Solder columns/spheres that do not meet requirements for device co-planarity/uniformity of the drawing design criteria (typically < 150 um).

This document and process conversion measures necessary to comply with this change shall be completed by 30 November 2015.

INCH - POUND

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SUPERSEDING
MIL-STD-883J
w/CHANGE 4
3 July 2014

DEPARTMENT OF DEFENSE

TEST METHOD STANDARD

MICROCIRCUITS

AMSC N/A

FSC 5962