

IPC-A-610D Errata Information

(These corrections should be made in user's hard copies in accordance with the company's document control program.)

Following are changes that clarify conflicts between separate clauses or correct an error in technical content.

Page	Reference	Description	
5-10	5.2.2	Modify Defect – Class 2,3 <to> Defect – Class 1,2,3	Class 1 criteria change
6-37	6.9.1	Acceptable – Class 1,2,3 next to Fig 6-83, 2 nd bullet should read: “Wire strands are not kinked.”	Missing word that changes criteria
7-35	Table 7-2	Bottom Row (L) Max combine all three classes and make: “ No danger of shorts ”	Criteria changed for Class 2 (less restrictive>
7-43	7.5.2	Consistency; use of terms “land” and “board” in some instances when measuring spacing. Acceptable – Class 1,2,3 first bullet, change “...above the board is not...” to “...above the land is not...” Table 7-4 Title (also in Table of Contents) change “Component to Board Clearance” <TO> “Component to Land Clearance”	This is a very minor, non-measurable change in criteria.
8-22	8.2.2.9.1	Acceptable – Class 1,2,3 second bullet modify “Complete wetting at land or and end cap metallization.”	Criteria changed for all Classes for billboarding of chip components
8-41	8.2.5	Table 8-5 Feature D modify to: “Minimum Side Joint Length Note 6 ” Add new note 6 below Table 8-5: Note 6. fine pitch leads require a minimum side fillet length of 0.5 mm [0.02 in]	Criteria changed for all Classes for fine pitch leads solder fillet length only
8-77	8.2.11	Table 8-11 Feature F modify: Minimum Fillet Height Notes 5,6 Feature F Class 1 delete reference to Note 3 and add: Wetting is evident on the vertical surface(s) of the component termination. Add new note 6 below Table 8-11: Note 6: Designs with via in pad may preclude meeting these criteria. Solder acceptance criteria should be defined between the user and the manufacturer.	Class 1 criteria change and addressed <u>possible</u> exceptions for via in pad criteria for all Classes.
10-20	10.2.8.4	Acceptable – Class 1 second bullet, modify: “...does not extend into the bend...” (replace missing words)	Class 1, Establish criteria; the fragmented sentence had no meaning.

IPC-A-610D Errata Information

(These corrections should be made in user's hard copies in accordance with the company's document control program.)

Following are editorial changes that improve usability but do not change the criteria.

viii	ToC	6.1 correct page is 6-2 6.10.3 correct page is 6-45 6.10.4 correct page is 6-46 6.10.5 correct page is 6-47 6.10.6 correct page is 6-48	Editorial
x & 8-2	ToC	Table of Contents 8.2.1.1 listing should be Side Overhang (A) in both places; it is correct in the criteria	Editorial
1-4 & 1.5	1.4.2.3 1.5	The second paragraph under 1.5 that begins "A defect for Class 1 automatically..." is out of place and needs to be moved under the current 1.4.2.3 description of defect.	Clarification, no change in criteria
1-6	1.8	Table 1-3 reference to 10.5.4 should be 10.4.4	Clarification, no criteria change
2-2	2.4 & 2.5	Footers 4 and 5 have websites reversed. Website for 2.4 EIA (footer 4) should be www.eia.org and 2.5 should be www.iec.ch	Clarification, no criteria change
4-13	Fig 4-21	Item 2 add word at end "...annular ring width "	Clarification, no criteria change
6-1	Intro	2 nd paragraph 6.7.3 reference should be 6.7.4	Clarification, no criteria change
6-25	6.7.5	Target – Class 1,2,3 modify second bullet: "Wire wrapped to contact two nonadjacent sides of the terminal." (To remove conflict and align to the "Defect" condition that is stated correctly)	Clarification, no criteria change because Defect condition was stated correctly with the criteria bullets
6-48	6.10.6	Acceptable – Class 1,2,3 modify second bullet: "Solder fill greater than 75% or more. "	Editorial; readability
7-36	7.4.4	Printed in the introduction text: "Lead terminations in unsupported holes are clinched a minimum of 45°." Change to: " Class 3 lead terminations in unsupported holes are clinched a minimum of 45°."	Clarification to remove conflict on applicability to Class 3 only, no criteria change because Defect condition was stated correctly with the criteria bullets.
7-45	7.5.3	add words: Note 1. For boards greater than 2.3 mm [0.0906 in] thick, components having pre-established lead lengths, e.g., DIPs, sockets, connectors, as a minimum components or lead shoulders need to be flush to the board surface, but lead end may not be visible in the subsequent solder connection, see 1.4.2.5.	Clarification; the previous words have been in use in Revs B & C for nearly ten years with no industry comments.
7-48	7.5.5	Target – Class 1,2,3 next to Fig 7-102; last bullet 5.10.10 reference should be 5.2.10	Clarification, no criteria change
7-51	7.5.5.1	Defect – Class 1,2,3 criteria needs to move below Fig 7-110. Both Figures 7-109 and 7-110 are representative of Acceptable – Class 1,2,3 criteria	Clarification, no criteria change, Clause 1.2 text takes precedence over illustrations
8-11	8.2.2	Bottom of page, criteria for Target – Class 1,2,3 should be with 8.2.2.1 next to Fig 8-11	Clarification, no criteria change, Clause 1.2 text takes precedence over illustrations
8-12	8.2.2.1	header; delete (cont.) criteria for Acceptable – Class 3 should be next to Fig 8-12 criteria for Defect – Class 1,2 and Defect – Class 3 should be with 8.2.2 next to Fig 8-13 and associated with Figs 8-14 and 8-15	Clarification, no criteria change, Clause 1.2 text takes precedence over illustrations
8-13	8.2.2.2 wrong header	header should be: 8.2.2.1 Chip Components...Termination, Side Overhang (A) (cont.) criteria for Target – Class 1,2,3 should be with 8.2.2.2 page 8-14 next to Fig 8-16	Clarification, no criteria change, Clause 1.2 text takes precedence over illustrations
8-14	8.2.2.2	criteria for Defect – Class 1,2,3 should be next to Fig 8-17	Clarification, no criteria change, Clause 1.2 text takes precedence over illustrations

IPC-A-610D Errata Information

(These corrections should be made in user's hard copies in accordance with the company's document control program.)

8-27	8.2.3	Table 8-3, Dimension F criteria for Classes 1 and 2 should be: Wetting is evident on the vertical surface(s) of the component termination. Note 7 Dimension F criteria for Class 3 should reference Note 7 at the end ... whichever is less. Note 7 Add new note 7 below Table 8-3: Note 7. Designs with via in pad may preclude meeting these criteria. Solder acceptance criteria should be defined between the user and the manufacturer.	Clarification that minimum fillet height for end and sides is actually on the end and side vertical surfaces. No criteria change.
8-49	8.2.5.4	Acceptable – Class 2,3 First bullet; modify so the criteria reads “ greater than three lead widths (W) or 75% (L), whichever is longer , Figure 8-84.” Second bullet; modify to “...is equal to 100% (L) , Figure 8-83.” Defect - Class 2,3 add to end of first bullet: “ ...or 75% (L), whichever is longer. ”	No criteria change but clarification to align summary table to following conditions that are stated correctly
8-54	Table 8-6	Feature C, change Class 1,2 criteria from 50% (W) <to> Note 3	No criteria change but clarification to align summary table to following conditions that are stated correctly
8-80	8.2.12.2	change criteria to the following. Acceptable – Class 1,2,3 • BGA Solder balls do not violate minimum electrical clearance (C). Defect – Class 1,2,3 • BGA solder ball spacing violates minimum electrical clearance.	Clarification, the text criteria for height didn't match the illustration. Height criteria was eliminated because it's a design issue that assemblers can't control. Adding this is not a criteria change because 1.4.5 establishes that any violation of minimum electrical clearance is a defect.
8-86	8.2.14	modify line F Minimum Toe (End) Heel Fillet Height Thermal Plane Side Overhang change reference from Figure 8-154 to 8-153	Clarification in the table, no criteria change because conditions are stated correctly in the required 8.2.5 clause.
8-86	8.2.14	Table 8-14: Add Feature line: Maximum Heel Fillet Height E	Clarification , no change in criteria
9-11	9.5	Defect – Class 1,2,3 Delete the third bullet, starting with “Connector area underneath...”	Clarification, criteria about component mounting has no relationship to this clause about component damage. The component mounting criteria in 7.1.8 is correct.
10-4 10-5	10.2 10.2.1	10.2 Intro; under 2 nd paragraph “This section is based on...” and 10.2.1 bottom of right column, under Process Indicator – Class 2, Defect – Class 3 criteria insert new note: Note: This document takes exception to the bare board measling criteria of some versions of IPC-A-600 and IPC-6012.	Advisory note to users about the difference between this assembly standard and the bare board acceptance standards. Addition of this note does not change the criteria.