

IPC-A-610E is 408 pages, 809 illustrations and more than 7,000 bulleted criteria items. Even with nearly 200 task group members reviewing prior to publication, it was inevitable that in a document this size some errors would be missed.

FIRST—open the cover of your IPC-A-610E to the Title Page. Look in the bottom left corner. If you see the statement “This printing includes editorial modifications for clarification and figure reference corrections” everything in Table 1 has been corrected. Go directly to Table 2. If you do not see this note on the Title Page, both Tables 1 and 2 below apply to your copy.

The decision was made to not list minor spelling, word spacing or punctuation items that don’t significantly impact readability or understanding. The electronic files as of July 15 or later include all of the changes in Tables 1 and 2 below.

Table 1
610E First Printing Notes

Page	Clause Number	Notes
4-15	4.3.2	Figures show long pins (insertion side) but criteria is for protrusion side. Drawings were changed to shorter pins.
6-44	Table 6-8	Last row editorial; change “violated” to “ violates ” for clarity
7-7	7.1.2.1	Last bullet under Defect – Class 1,2,3 correct reference is 7.1.2.3 (delete the “4”)
7-8	7.1.2.2	Figure 7-13; keys were omitted from the bottom view. From left to right, the left loop should be key #1, space between the component and the right loop should be key #2, and the right hump should be key #3. When this was corrected in the 2 nd printing the 2 nd view from the top (single hump) was inadvertently omitted but the criterion in the introduction paragraph indicates that there may be a single hump.
7-17	7.1.6.1	Next to Figure 7-38, last bullet Figure 7-37 reference should be Figure 7-38 .
7-30	7.2.2.1	2 nd bullet under Defect – Class 1,2,3 change the double % to just %
X 8-2 8-73	8.3.7.5	Table of contents page x clause number 8.3.7.5 changed to Maximum Heel Fillet Height (E). This same change was made in the chapter 8 table of contents page 8-2 and the 8.3.7.5 header on page 8-73. Because of editing error the change was not made in Table 8-7 Dimension E but should have been. This is listed in Table 2 below.
8-23	8.3.2.6	For clarification, in both Acceptable – Class 3 and Defect – Class 3, add the word “either” so criteria reads “Minimum fillet height (F) is solder thickness (G) plus either 25 % termination height (H), or 0.5 mm [0.02 in], whichever is less.
8-25	8.3.2.8	The listed criteria are in conflict with Table 8-2. The criteria on page 8-25 was in the draft for committee review and ultimately was not accepted. A replacement page in .pdf is available for free download. The criteria on the replacement page are the same as Revision D and remove the conflict to Revision E Table 8-2. Acceptable - Class 1,2,3 (next to Figure 8-39) <ul style="list-style-type: none"> Evidence of overlap contact (J) between the component termination and the land is required. Defect - Class 1,2,3 (next to Figure 8-40) <ul style="list-style-type: none"> Insufficient end overlap.
8-39	8.3.3.6	For clarification, in both Acceptable – Class 3 and Defect – Class 3, add the word “either” so criteria reads “Minimum fillet height (F) is solder thickness (G) plus either 25 % termination height (H), or 0.5 mm [0.02 in], whichever is less.
8-47	8.3.5	For clarification, Class 1 criteria for Dimension line D (1W) should be 1 (W) .
8-68	8.3.7	For clarification, in the first sentence of the introduction paragraph, the word “site” should be “ side .”
8-83	8.3.11	For clarification, in the first sentence of the introduction paragraph, Figure 8-187 should be 8-152 .
8-89	8.3.12.4	For clarification, the bullet under Acceptable – Class 1,2,3 is modified to “25% or less voiding of any ball in the x-ray image area.” This is the same wording in Table 8-12 and the Defect – Class 1,2,3 bullet.
9-11	9.5	For clarification, items under Defect – Class 1,2,3 should have bullet marks.
10-29	10.5.1 10.5.2	For clarification, between figures 10-70 and 10-71 insert header 10.5.2 Marking – Screened
10-30	10.5.2	For clarification, in the 10.5.2 header at top of the page add (cont.)
10-32	10.5.3 10.5.4	For clarification, the “10.5.4 Marking – Laser” should be 10.5.3 Marking – Stamped (cont.) There should be a header 10.5.4 Marking – Laser between Figure 10-76 and 10-77.
10-33	10.5.4	Figure 10-78 is not a good representation of the Acceptable – Class 1,2,3 criteria and should be ignored.
11-1	11	In the introduction, delete the non-relevant paragraph “This section defines the criteria for acceptability of interconnections...” and the items below the paragraph marked 1. and 2.
A-1	Appendix A	Appendix A second paragraph changed 610D to 610E

Table 2
610E 2nd Printing and Clarification Notes; items in BOLD may have an impact on acceptability

Page	Clause Number	Notes
1-4	1.4.1.4.1	Title should be Process <u>Control</u> Methodologies.
4-20	4.4.1	Acceptable Class 1,2,3 fourth bullet "Figure 4-46" should be " <u>Figure 4-43</u> "
4-25	Table 4-1	CATS Ethernet cable should be <u>CAT 5 Ethernet Cable</u>
4-27	4.5.4	The text blocks for Target – Class 1,2,3 & Acceptable – Class 1,2,3 & Process Indicator – Class 2, Defect – Class 3 should have been together instead of the spacing between Target and Acceptable. The spacing in the text implies that Figure 4-56 is only for Target and Figure 4-57 is only for Acceptable. Actually, these two figures have attributes that apply to both Target and Acceptable. The 2 nd bullet under Acceptable – Class 1,2,3 should reference <u>Figures 4-56 and 4-57.</u>
5-9	5.2.5	Defect – Class 1,2,3 The dewetting criteria was placed here in error. The criteria should read: " <u>The solder connection exhibits poor wetting and may show evidence of entrapped rosin separating the surfaces to be joined.</u> "
6-21	6.3.4	For clarification, the criterion in Defect – Class 2,3 is mute to Class 1 although J-STD-001E states it is Acceptable for Class 1. This is not a conflict because there is no Class 1 criteria provided in 610E.
6-27	6.5.2	It is noted that the first bullet under Defect – Class 1,2,3 "No stress relief" is in conflict with J-STD-001E Acceptable Class 1, Process Indicator Class 2, Defect Class 3. Users will have to determine which document takes precedence in their unique situation.
6-34	Table 6-5	Third data row should be <u>>360° (greater than)</u>
7-8	7.1.2.2	Last paragraph of the introduction reference to Figure 7-13 should be <u>7-14.</u> For clarification, the criteria next to Figure 7-15 should include the complete body seal to lead bend requirements of 7.1.2.1 (next to Figure 7-11) "1 lead diameter or 0.8 mm [0.031 in]"
7-15	7.1.6	Under Acceptable – Class 1.2.3 end of bullet add (C) to read "...
7-21	7.1.8.1	Acceptable – Class 2,3 2 nd bullet "(not shown)" should refer to <u>Figure 7-50.</u>
7-28	7.2.2.1	The vertically mounted component in Figure 7-62 should show "Min 25% L" to align to the criteria bullets. Words take precedence over illustrations (see clause 1.2).
7-29	7.2.2.1	The last bullets under Not Established – Class 1, Process Indicator – Class 2 and Defect – Class 3 and under Process Indicator – Class 1 and Defect – Class 2,3 are identical and are in conflict with J-STD-001E for Class 2 only. The first criterion grouping showing this as Process Indicator is closest to J-STD-001E (Not Established Class 2). In either case, the condition for Class 2 would not be a defect. Delete the last bullet under Process Indicator – Class 1, Defect – Class 2,3 regarding staking to both sides of the component.
7-38	7.3.4	Grammar correction, in the first paragraph of the introduction the sentence " Leads and leads greater than..." should be just "Leads greater than..."
7-41	7.3.5	Delete the last bullet under Acceptable – Class 1, Process Indicator – Class 2,3 " Fillet is lifted from land... " This criteria was a carry over from Revision D. However, lead free fillet lift clause 51.2.11 changed in Revision E and this criterion is no longer applicable.
7-43	7.3.5.1	For clarity, the Defect – Class 2,3 criteria <u>next</u> to Figure 7-90 <u>should be below</u> Figure 7-90. Figure 7-90 is showing acceptable criteria.
8-8	8.3.1	For clarification the 2 nd sentence adds the word termination: "The widths of the component <u>termination</u> and land are (W) and (P) respectively." This will completely align with Table 8-1.
8-8	Table 8-1	Minimum End Overlap "J" for Class 1 should be Note 3
X 8-1 8-24	8.3.2.7	Table of contents page x clause number 8.3.2.7 should be 1, 3 or 5 Side Terminations, <u>Solder</u> Thickness (G). This same change should be in the chapter 8 table of contents page 8-1 and the 8.3.2.7 header on page 8-24. It is correct in Table 8-2
8-39	8.3.3.6	Acceptable class 1,2 should read " <u>wetting is evident on the vertical surfaces of the component termination.</u> "
8-55	8.3.5.4	For clarification, under Acceptable – Class 2,3 first bullet Figure 8-84 should be <u>8-96</u> and in the second bullet Figure 8-83 should be <u>8-97.</u>
8-68	Table 8-7 Dimension E	Should be Maximum <u>Heel</u> Fillet Height (E)
8-81	8.3.9	For clarification, in the introduction paragraph Figure 8-134 should be <u>8-149.</u>
8-83	8.3.11	For clarification, in the introduction paragraph Figure 8-187 should be <u>8-152.</u>
8-90	8.3.12.6	For clarification, under Defect – Class 1,2,3 third bullet, Figure 8-166 should be <u>8-167.</u>
8-97	8.3.15.3	Delete the (E) from the header; it isn't referenced anywhere.
8-103	8.6.1.3	For clarification, in the introduction paragraph See 8.6.1.54 should be See 8.6.1.5.

610E Errata Table 2 (continued)

10-27	10.5	The paragraph at the top of the page about RFID is redundant to the paragraph on page 10-36. This paragraph is not relevant to Clause 10.5 and should be ignored.`
10-36	10.5.6	Delete the words “As noted in 10.3” at the beginning of the introduction. This is the only clause for RFID information.
10-39	10.6.2	At the end of the first bullet under Defect – Class 1,2,3 end the sentence after “encapsulated,; and delete the phrase “ see 5.2.7.1 and 10.7.2.2 ” because they are not relevant.
12-2	12	All criteria should have bullets. In the second statement under Acceptable – Class 1,2,3 the reference should only be Figure 12-2 (A).
12-3	12	For clarity, all of the Figure 12-3 references should be 12-4 .