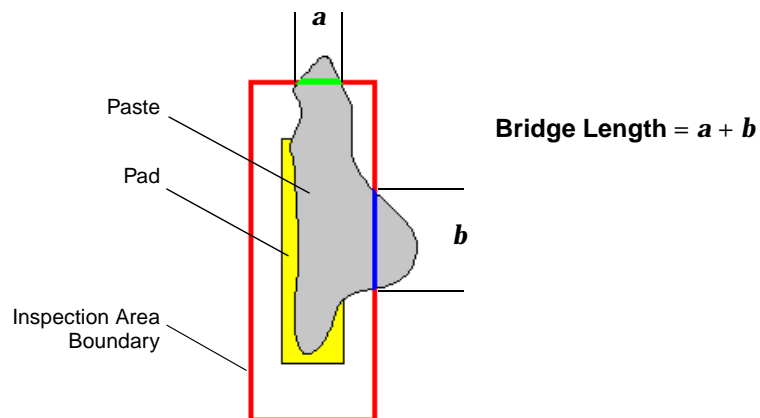


SE 300 Solder Bridge Detection

The SE 300 identifies paste deposits that are likely to cause solder bridges using the following process.

- Establish a height threshold based on the height map and feature shape.
- Locate the paste that corresponds to the feature. Only pixels contiguous to the paste on the feature and above the height threshold are considered part of the solder paste deposit. For example, if paste from a neighboring pad is visible within the inspection area boundary, it is not considered part of the pad under inspection since the paste is not abutting the original feature.
- Add the lengths of all places where solder paste intersects the inspection area boundary (see below). When the sum of the lengths exceeds the specified bridge length value, the system flags a failure or warning.



The SE 300 makes solder bridge determinations at the feature (or pad) level. Failures are reported for bridge lengths exceeding the limits set up in Teach or when accumulations of bridging failures exceed the specified limits. Criteria for solder paste bridge lengths and maximum failure counts are specified in the Teach application. When this is done, you can monitor bridging results in the Solder Paste Inspection Numeric report, Trend chart, or Defect Review.

- Features- reports show bridge lengths that exceed the limits set up in Teach.

Item	Failure Type	Measurement	Tolerance	Difference	Date/Time	Comment
Panel Description Board 2 U35 Pin 173	Bridge Length	19.757	10.000	9.757	12-Jun-2003 09:48:43	Bdry. Vio
Panel Description Board 2 U35 Pin 171	Bridge Length	26.869	10.000	16.869	12-Jun-2003 09:48:43	Bdry. Vio
Panel Description Board 2 U35 Pin 172	Bridge Length	25.289	10.000	15.289	12-Jun-2003 09:48:43	Bdry. Vio
Panel Description Board 2 U35 Pin 170	Bridge Length	15.015	10.000	5.015	12-Jun-2003 09:48:43	Bdry. Vio
Panel Description Board 2 U35 Pin 137	Bridge Length	64.802	10.000	54.802	12-Jun-2003 09:48:44	Bdry. Vio
Panel Description Board 2 U35 Pin 138	Bridge Length	53.739	10.000	43.739	12-Jun-2003 09:48:44	Bdry. Vio
Panel Description Board 2 U35 Pin 29	Bridge Length	13.435	10.000	3.435	12-Jun-2003 09:48:45	Bdry. Vio
Panel Description Board 2 U41 Pin 79	Bridge Length	22.918	10.000	12.918	12-Jun-2003 09:48:41	Bdry. Vio
Panel Description Board 2 U41 Pin 80	Bridge Length	15.805	10.000	5.805	12-Jun-2003 09:48:41	Bdry. Vio
Panel Description Board 2 U41 Pin 162	Bridge Length	11.854	10.000	1.854	12-Jun-2003 09:48:42	Bdry. Vio

Failure identified as Bridge Length Actual measurement Limit specified in Teach (Boundary information is related to registration measurements, and is not used in bridge detection)

Figure 1. Defect Review: Feature-Level Results

- Location, image, or panel level – reports show the number of bridging failures reported for the image, location, or feature.

Panel ID	Location Failures H/A/V	Feature Failures H/A/V	Location Failures Reg	Feature Failures Reg	Location Failures Bridging	Feature Failures Bridging	Offset X	Offset Y	Rotation	Scaling (%)	Valid / Possible	Date/Time
#24	11	844	4	66	3	34	-0.790	-1.321	-0.005	0%	194/1058	12-Jun-2003 10:23:58
#23	11	841	4	87	3	35	-0.773	-1.408	-0.004	0%	196/1058	12-Jun-2003 10:23:35
#22	11	844	4	75	3	33	-0.778	-1.352	-0.005	0%	192/1058	12-Jun-2003 10:23:12
#21	11	843	4	79	3	33	-0.777	-1.385	-0.005	0%	197/1058	12-Jun-2003 10:22:49
#20	10	840	4	73	3	33	-0.802	-1.333	-0.005	0%	196/1058	12-Jun-2003 10:22:26
#19	11	840	4	82	3	33	-0.808	-1.399	-0.004	0%	192/1058	12-Jun-2003 10:22:03
#18	11	835	4	77	3	33	-0.811	-1.368	-0.005	0%	201/1058	12-Jun-2003 10:21:39
#17	11	845	4	73	3	34	-0.771	-1.404	-0.005	0%	192/1058	12-Jun-2003 10:21:16
#16	11	835	4	63	3	33	-0.798	-1.361	-0.006	0%	195/1058	12-Jun-2003 10:20:53
#15	11	845	4	65	3	32	-0.745	-1.321	-0.005	0%	193/1058	12-Jun-2003 10:20:29
#14	11	854	4	55	3	32	-0.787	-1.303	-0.005	0%	180/1058	12-Jun-2003 09:53:36

Total number of locations on the board that have failed due to bridging at the feature-level. Total number of features on the board that have bridge failures.

Figure 2. Defect Review: Image-Level Results

For More Information

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