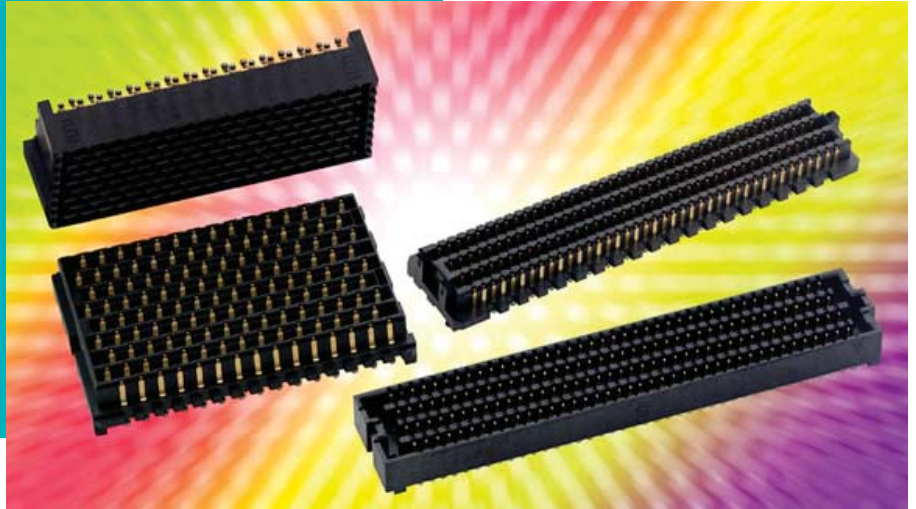


Reworking Grid Array Connectors



SE and DP Array Connectors

Reworking grid array connectors must be accomplished using hot air rework equipment. The recommended procedure is as follows:

1. From your rework equipment supplier, obtain a hot air rework nozzle specifically designed for use with the damaged connector.
2. Using a syringe or flux pen, add liquid flux to the connector solder joints allowing the flux to penetrate under the body to the ground plane.
3. Lower the hot air rework device, set to a maximum of 250° C, down over the connector and allow the hot air to circulate and liquefy the solder joints.

Note: It is important to use a bottom pre-heater to avoid open solder joints because of PCB bow and twist during the repair process. Before finalizing the rework process, a thermal profile should be performed with the thermocouples in direct contact with the insulator

body and solder leads to verify the temperatures of the PCB and components.

4. Raise the hot air nozzle and remove the connector.
5. The board must then be cleaned and the pads leveled with a solder wick mesh to make sure the pads are an even height and no bumps or raised areas remain.
6. Using a manual or pneumatic dispensing device, apply the solder paste to the pads.
7. Load the connector into position making sure all leads are sitting in the paste.
8. Lower the hot air device over the connector, and allow the paste to liquefy for a period of 30-90 seconds. Refer to the solder manufacturer's suggested reflow profile for temperature and time specifications.
9. Clean the flux residue from the board unless "no clean" solder paste was used.

EXAMPLE

Following is an example of rework specification for the SEAF-20-06.5-SM-08-2-K connector.

Equipment Used

- Samtec SEAF-20-06.5-SM-08-2-K connector,
- Air-Vac Engineering DRS25 surface mount rework system,
- Air-Vac Engineering N10.7LZ32.1-6.88 hot air nozzle,
- A8LZ20ST-SMF insertion tray.

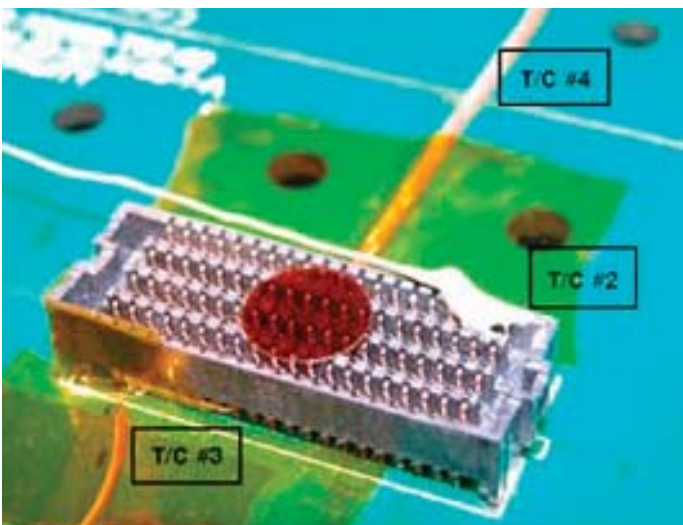


Figure 1. Locations of T/C's 2, 3 and 4

Thermocouple Placement

The thermocouples were placed according to Table 1 below. The nozzle, diffuser and T/C #1 locations are not shown in Figure 1, but are represented in the thermal profile (see Figure 2).

ID	Location
Nozzle	Nozzle
Diffuser	Diffuser
T/C #1	Connector side of board
T/C #2	Top edge of connector body (attached with epoxy)
T/C #3	Corner solder joint
T/C #4	Center solder joint

Table 1 Thermocouple locations

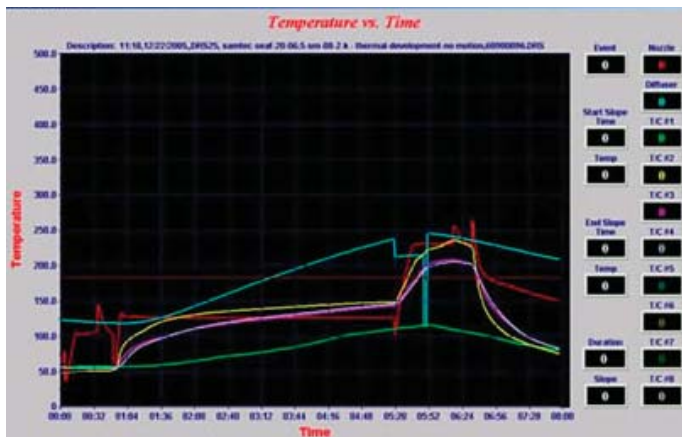


Figure 2. Thermal profile using Air-Vac Engineering DRS25 surface mount rework system.

For more information on the hot air rework nozzles or equipment used, please contact:

Stephen Guzowski, Regional Manager
Air-Vac Engineering
 30 Progress Ave., Seymour, CT 06483
 Telephone: 203-888-9900, ext. 109,
 Fax: 203-888-1145,
 Cell: 203-910-9467.

	Array Products	Air-Vac and Insertion Tool Universal EZ Style Nozzle and Insertion Tool	Air-Vac Dedicated Nozzle Pt No.
1	SEAF-20-05.0-XX-10-X-XX	NA10LZ20ST-SMF	NA13LZ32.1-5.38
2	SEAF-20-06.5-XX-10-X-XX	NA10LZ20ST-SMF	NA13LZ32.1-6.88
3	SEAM-20-02.0-XX-10-X-XX	NA10LZ20ST-SMF	NA14.7LZ31.3-4.92
4	SEAM-20-03.5-XX-10-X-XX	NA10LZ20ST-SMF	NA14.7LZ31.3-6.42
5	SEAF-30-05.0-XX-10-X-XX	NA10LZ30ST-SMF	NA13LZ44.8-5.38
6	SEAF-30-06.5-XX-10-X-XX	NA10LZ30ST-SMF	NA13LZ44.8-6.88
7	SEAM-30-02.0-XX-10-X-XX	NA10LZ30ST-SMF	NA14.7LZ44-4.92
8	SEAM-30-03.5-XX-10-X-XX	NA10LZ30ST-SMF	NA14.7LZ44-6.42
9	SEAF-40-05.0-XX-10-X-XX	NA10LZ40ST-SMF	NA13LZ57.5-5.38
10	SEAF-40-06.5-XX-10-X-XX	NA10LZ40ST-SMF	NA13LZ57.5-6.88
11	SEAM-40-02.0-XX-10-X-XX	NA10LZ40ST-SMF	NA14.7LZ56.7-4.92
12	SEAM-40-03.5-XX-10-X-XX	NA10LZ40ST-SMF	NA14.7LZ56.7-6.42
13	SEAF-50-05.0-XX-10-X-XX	NA10LZ50ST-SMF	NA13LZ70.2-5.38
14	SEAF-50-06.5-XX-10-X-XX	NA10LZ50ST-SMF	NA13LZ70.2-6.88
15	SEAM-50-02.0-XX-10-X-XX	NA10LZ50ST-SMF	NA14.7LZ69.4-4.92
16	SEAM-50-03.5-XX-10-X-XX	NA10LZ50ST-SMF	NA14.7LZ69.4-6.42
17	DPAF-15-03.0-X-3-X-XX	NA3LZ15ST-DF	NA10.6LZ38-6.57
18	DPAM-15-07.0-X-3-X-XX	NA3LZ15ST-DMF	NA11.9LZ36.7-6.78
19	DPAM-15-14.0-X-3-X-XX	NA3LZ15ST-DMF	NA14.2LZ36.7-13.79
20	DPAF-23-03.0-X-3-X-XX	NA3LZ23ST-DF	NA10.6LZ55.3-6.57
21	DPAM-23-07.0-X-3-X-XX	NA3LZ23ST-DMF	NA11.9LZ54-6.78
22	DPAM-23-14.0-X-3-X-XX	NA3LZ23ST-DMF	NA14.2LZ54-13.79
23	DPAF-30-03.0-X-3-X-XX	NA3LZ30ST-DF	NA10.6LZ70.4-6.57
24	DPAM-30-07.0-X-3-X-XX	NA3LZ30ST-DMF	NA11.9LZ69.1-6.78
25	DPAF-08-03.0-X-3-X-XX	NA3LZ8ST-DMF	NA10.6LZ22.9-6.57
26	DPAM-08-07.0-X-3-X-XX	NA3LZ8ST-DMF	NA11.9LZ21.6-6.78
27	DPAM-08-14.0-X-3-X-XX	NA3LZ8ST-DMF	NA14.2LZ21.6-13.79
28	DPAF-15-03.0-X-8-X-XX	NA8LZ15ST-DMF	NA23.3LZ38-6.57
29	DPAM-15-07.0-X-8-X-XX	NA8LZ15ST-DMF	NA24.6LZ36.7-6.78
30	DPAM-15-14.0-X-8-X-XX	NA8LZ15ST-DMF	NA26.9LZ36.7-13.79
31	SEAF-20-05.0-XX-08-X-XX	NA8LZ20ST-SMF	NA10.5LZ32.1-5.38
32	SEAF-20-06.5-XX-08-X-XX	NA8LZ20ST-SMF	NA10.5LZ32.1-6.88
33	SEAM-20-02.0-XX-08-X-XX	NA8LZ20ST-SMF	NA12.1LZ31.3-4.92
34	SEAM-20-03.5-XX-08-X-XX	NA8LZ20ST-SMF	NA12.1LZ31.3-6.42
35	DPAF-23-03.0-X-8-X-XX	NA8LZ23ST-DMF	NA23.3LZ55.3-6.57
36	DPAM-23-07.0-X-8-X-XX	NA8LZ23ST-DMF	NA24.6LZ54-6.78
37	DPAM-23-14.0-X-8-X-XX	NA8LZ23ST-DMF	NA26.9LZ54-13.79
38	SEAF-30-05.0-XX-08-X-XX	NA8LZ30ST-SMF	NA10.5LZ44.8-5.38
39	SEAF-30-06.5-XX-08-X-XX	NA8LZ30ST-SMF	NA10.5LZ44.8-6.88
40	SEAM-30-02.0-XX-08-X-XX	NA8LZ30ST-SMF	NA12.1LZ44-4.92
41	SEAM-30-03.5-XX-08-X-XX	NA8LZ30ST-SMF	NA12.1LZ44-6.42
42	SEAF-40-05.0-XX-08-X-XX	NA8LZ40ST-SMF	NA10.5LZ57.5-5.38
43	SEAF-40-06.5-XX-08-X-XX	NA8LZ40ST-SMF	NA10.5LZ57.5-6.88
44	SEAM-40-02.0-XX-08-X-XX	NA8LZ40ST-SMF	NA12.1LZ56.7-4.92
45	SEAM-40-03.5-XX-08-X-XX	NA8LZ40ST-SMF	NA12.1LZ56.7-6.42
46	SEAF-50-05.0-XX-08-X-XX	NA8LZ50ST-SMF	NA10.5LZ70.2-5.38
47	SEAF-50-06.5-XX-08-X-XX	NA8LZ50ST-SMF	NA10.5LZ70.2-6.88
48	SEAM-50-02.0-XX-08-X-XX	NA8LZ50ST-SMF	NA12.1LZ69.4-4.92
49	SEAM-50-03.5-XX-08-X-XX	NA8LZ50ST-SMF	NA12.1LZ69.4-6.42
50	DPAF-08-03.0-X-8-X-XX	NA8LZ8ST-DMF	NA22.9LZ23.3-6.57
51	DPAM-08-07.0-X-8-X-XX	NA8LZ8ST-DMF	NA21.6LZ24-6.78
52	DPAM-08-14.0-X-8-X-XX	NA8LZ8ST-DMF	NA21.6LZ26.9-13.79