

File E28476  
Project 88ME2700

Issued: August 18, 1988  
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REPORT

on

\* **COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL, CONTROL AND POWER  
APPLICATIONS**

\* **Tyco Electronics Corp.**  
Harrisburg, PA

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DESCRIPTION

PRODUCT COVERED:

Component-Connectors Mini-Universal MATE-N-LOK™ Connectors.

Cat Nos. 770166, 1-770166-1, 1-770166-0, 770166-2, 770166-1, 770170, 5-770170-0, 1-770170-1, 1-770170-0, 770170-2, 770170-1, 770174, 5-770174-0, 1-770174-1, 1-770174-0, 770174-2, 770174-1, 770178, 5-770178-0, 1-770178-1, 1-770178-0, 770178-2, 770178-1, 770182, 770182-2, 770182-1, 770186, 770186-2, 770186-1, 770190, 770190-2, 770190-1, 770579, 770579-1, 770580, 770580-1, 770581, 770581-1, 770582, 770582-1, 770583, 770583-1, 770584, 770584-1, 770585, 770585-1, 770586, 770586-1, 770587, 770587-1, 770605, 770605-2, 770605-1, 770606, 770606-2, 770606-1, 770607, 770607-2, 770607-1, 770608, 770608-2, 770608-1, 770609, 770609-2, 770609-1, 770610, 770610-2, 770610-1, 770611, 770611-2, 770611-1, 770612, 770612-2, 770612-1, 770613, 770613-2, 770613-1, 770614, 770614-2, 770614-1, 770615, 770615-2, 770615-1, 770616, 770616-2, 770616-1, 770617, 770617-2, 770617-1, 770621, 770621-2, 770621-1, 770743, 770743-2, 770743-1, 770834, 770834-3, 770834-1, 770835, 770835-3, 770835-1, 770858, 1-770858-1, 1-770858-0, 770858-2, 770858-1, 770859, 770859-2, 770859-1, 770872, 770872-2, 770872-1, 770873, 770873-2, 770873-1, 770874, 770874-2, 770874-1, 770875, 770875-2, 770875-1, 770876, 1-770876-1, 1-770876-0, 770876-2, 770876-1, 770901, 770901-3, 770901-1, 770902, 770902-3, 770902-1, 770903, 770903-3, 770903-1, 770904, 770904-3, 770904-1, 770966, 770966-2, 770966-1, 770967, 1-770967-1, 1-770967-0, 770967-2, 770967-1, 770968, 770968-2, 770968-1, 770969, 770969-2, 770969-1, 770970, 770970-2, 770970-1, 770971, 770971-2, 770971-1, 770972, 770972-2, 770972-1, 770973, 770973-2, 770973-1, 770980, 770980-1, 770974, 770974-2, 770974-1, 794004, 794004-1, 794006, 794006-1, 794034, 794034-1, 794040, 794040-2, 794003, 794003-2, 794003-1, 794043, 794043-1, 794044, 794044-2, 794047, 794047-1, 1586016, 1586016-1, 1954076, 1954076-1, 1954153, 1954153-1, 794894-1, 794805-1, 794895-1, 794821-1, 794781-1, 794824-1, 794896-1, 794939-1, 794940-1, 794941-1, 794942-1, 1586404-1, 794772-2, 794772-4, 794772-6, 794772-8, 1-794772-0, 1-1586362-6, 1586359, 1-1586359-6, 1-1586359-0, 1586359-8, 1586359-6, 1586359-4, 1586359-2, 794758, 794758-1, 794772, 1-794772-0, 794772-8, 794772-6, 794772-4, 794772-2, 794894, 794894-1, 794895, 794895-1, 794821, 794821-1, 794781, 794781-1, 794407, 1-794407-1, 1-794407-0, 794407-6, 794407-4, 794407-3, 794407-1, 794072, 1-794072-1, 1-794072-0, 794072-2, 794072-1, 794105, 1-794105-1, 794105-0, 794105-2, 794105-1, 794107, 794111-2, 770604-5, 770603-5, 770604-4, 770603-4, 770604-2, 770604-1, 770603-2, 770603-1, 794111-1, 1-794107-1, 1-794107-0, 794107-2, 794107-1, 2333994-1, 2333994.

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GENERAL:

These devices are multi-pole connectors employing contacts of the solder termination type.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE) :

Use - For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - In order to be judged acceptable as a component of electrical equipment, the following conditions should be met.

1. These devices should be used only where they will not interrupt the current.
- \*2. **Only the devices identified in CoA #15 have** been tested for current-carrying capability.
3. The suitability of the mounting means shall be determined in the end use.
4. The acceptability of the grounding connection shall be determined by the end product use engineer.
5. The electrical and mechanical suitability of the wiring terminals shall be determined in the end use.
6. The placement of these devices within the equipment enclosure should be such that spacings between the live parts and the equipment are suitable for the particular application.
- \*7. The adjacent poles may be used at potentials not exceeding 600 V based on the spacings requirements of Paragraph 11.1 of UL 1977. Dielectric testing has **only been performed on Cat. No. 1586746-2**.
8. The electrical and mechanical contact between the connector and the printed wiring board is to be judged in the end-use equipment.
9. The suitability of the insulating materials used in the molded bodies shall be judged in the end-use equipment.
10. The operating temperature of these devices should not exceed the temperature ratings of the insulating materials. These materials may be used interchangeably at a maximum temperature of 65°C.

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11. The factory assembled crimp contacts have been investigated for the following wire range and pullout forces.

Part No.	Wire Range (AWG)	Pull Force (lbs)
770834-1	26	7.5 average
770834-1	30	3.9 average
770902-1	22	8
770902-1	26	7.7 average
770904-1	18	20
770904-1	22	8
794407	16	20
794407	20	8

12. These devices may be provided with a silicon rubber seal at the connector housing interface and at the wire entry openings as shown in Ills. 77 - 79 respectively. The suitability of these seals shall be an end-product consideration.
13. The suitability of any flanges and seals used shall be an end product consideration.
14. Raw Material #703570 is used only for the housings of Cat. Nos. 770170, 770174 and 770178.
15. These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise values tabulated below.

Part Nos.	AWG	Current, A	Maximum Temperature °C
770582 and 770973 employing contact 794407	16	5	39.9
770582 and 770973 employing contact 794407	20	2	31.4
<b>1586746-2 header with 0.97 in. diameter soldering pins mated to Cat. No. 770587-1</b>	<b>16</b>	<b>10</b>	<b>95.3</b>

16. Dielectric-Voltage-Withstand testing has been conducted between adjacent poles on Part Nos. 770582 and 770973 employing contact 794407 at a potential of 2121 V dc based on a 250V rating.