D E S C R I P T I O N

PRODUCT COVERED:

**USR** - Series SL .156 Connectors.

**USR - SL-156 Connectors, Receptacle Part No. 770849, MTA-156 Connector, Header Part No. 640383.**

GENERAL:

**USR indicates investigation to United States Standards, UL 1977.**

1. The devices covered by this report are multi-pole connectors, headers, and related contacts for use with printed wiring boards within electrical equipment submitted to Underwriters Laboratories Inc. where the use has been investigated and found to satisfy the Conditions of Acceptability.

2. SL .156 connector and header assemblies are available in various sizes, shapes, configurations, densities, colors, and markings.

3. SL .156 connector and header assemblies may be right-angle or vertical mount types.

4. SL .156 connectors may have post entry holes molded closed for keying purposes.

5. SL .156 connectors may be shipped with preloaded contacts or shipped without contacts.

6. SL .156 header assemblies may be straight, right angle, polarized or friction lock types.

7. SL .156 header assembly posts may be square or round may vary in length, and may vary in platings.

8. SL .156 contacts are available in loose-piece or strip form and various platings.

RATINGS:

| Cat. Nos. | | Voltage Vac/Vdc | | Ampere (A) | | Conductor Sizes, AWG Str |
|---|---|---|---|---|---|---|
| 640383, 770849 **with contact 770476** | | 600 | | 1.5 | | 24 |
| 640383, 770849 **with contact 770476** | | 600 | | 3.0 | | 22 |
| 640383, 770849 **with contact 770476** | | 600 | | 4.5 | | 20 |
| 640383, 770849 **with contact 770476** | | 600 | | 6.0 | | 18 |
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ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

Use - For use only in complete equipment where the acceptability of the combination has been 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. These devices have not been evaluated for current-carrying capability except for the Cat. Nos. 640383 and 770849 **with contact 770476** identified above.

3. The suitability of the insulating material used in the molded bodies shall be determined in the end-use equipment.

4. These devices employ insulating materials with properties as tabulated below at the minimum thickness employed in the connector housing, the suitability of the insulating materials based on the documented values shall be determined in the end-use application. Please note the values specified in the table when multiple materials are indicated represent the minimum values for the group of materials.

| Cat. No. | Insulating Material (#) | Measured Minimum Thickness | Flame Class | HWI | HAI | RTI Elec | Max Operating Temp, $^0$C |
|---|---|---|---|---|---|---|---|
| ALL | A | 0.52 mm | V0 | 4 | 0 | 110 | 110 |
| | B | | V2 | -- | -- | 105 | 105 |
| | C | | V0 | -- | -- | 120 | 120 |
| | D | | V2 | -- | -- | 130 | 130 |
| | E | | V0 | -- | -- | 130 | 105 |
| | F | | V0 | -- | -- | 130 | 130 |
| | G | | V0 | 4 | 2 | 150 | 150 |
| | H | | V0 | 4 | 0 | 140 | 140 |
| | I | | V0 | 4 | 0 | 120 | 120 |
| 640383 | J | 2.95 | V0 | 4 | 2 | 120 | 120 |
| 770849 | F | 0.52 | V0 | - | - | 130 | 120 |

(#) – Code for Insulating Body Material.

A. Tyco RM No. 703939
1. Dielectric strength (kV/mm): 14
2. CTI: 0

B. Tyco RM No. 702904
1. Dielectric strength (kV/mm): --
2. CTI: 0

C. Tyco RM No. 26864
1. Dielectric strength (kV/mm): 3
2. CTI: 22

D. Tyco RM No. 702925
1. Dielectric strength (kV/mm): 26
2. CTI: 0

E. Tyco RM No. 17066
1. Dielectric strength (kV/mm): 26
2. CTI: 1

F. Tyco RM No. 703416
1. Dielectric strength (kV/mm): 28
2. CTI: 0

G. Tyco RM No. 705264
1. Dielectric strength (kV/mm): 18
2. CTI: 0

H. Tyco RM No. 703917
1. Dielectric strength (kV/mm): 22
2. CTI: 0

I. Tyco RM No. 705287
1. Dielectric strength (kV/mm): --
2. CTI: 0

**J. Tyco RM No. 18597**
**1. Dielectric strength (kV/mm): 22**
**2. CTI: 3**

5. The placement of these devices with the equipment enclosure should be such that spacings between the live parts and the equipment are suitable for the particular application.

6. The crimp contacts have not been evaluated for mechanical secureness. Consideration should be given to performing the Conductor Secureness Test from UL 1977, the Standard for Connectors for Data, Signal and Power, on wired samples of the crimp terminal that have been prepared using the dies, tools or other equipment that will be used to terminate the conductors at the end-use manufacturer's location.

7. The electrical and mechanical contact between the connector and the printed wiring board is to be judged.

8. Spacings - Refer to Paragraph 12.1, UL 498, Eleventh Edition.

   a. Spacings less than 3/64 in are acceptable where the voltages are not in excess of 30 V.

   b. Except under the conditions expressed in Item C, the potential shall not exceed 250 V between any two poles and between any pole and ground where spacing is 3/64 min.

   c. Voltage in excess of 250 V but not exceeding 600 V may be considered where the spacings between the metal housing and live parts and between live parts of opposite polarity measure at least 1/8 in.

   Note: Different spacings may be acceptable based on the end-product Standard.

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Current-Carrying Capability and Current Ratings

9. These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise values tabulated below.

RECEPTACLE

| Cat Nos. | Current, A | Maximum Temperature, °C | Maximum Temperature Rise, °C |
|---|---|---|---|
| 2-770849-4 **with contact 770476-1** | 1.5 | 29.2 | 6.3 |
| 2-770849-4 **with contact 770476-1** | 3.0 | 35.1 | 11.4 |
| 2-770849-4 **with contact 770476-1** | 4.5 | 37.4 | 14.0 |
| 2-770849-4 **with contact 770476-1** | 6.0 | 43 | 19.1 |

HEADER

| Cat Nos. | Current, A | Maximum Temperature, °C | Maximum Temperature Rise, °C |
|---|---|---|---|
| 2-640383-4 | 1.5 | 29.2 | 6.3 |
| 2-640383-4 | 3.0 | 35.1 | 11.7 |
| 2-640383-4 | 4.5 | 37.4 | 14.0 |
| 2-640383-4 | 6.0 | 42.7 | 18.8 |

10. Cat. Nos. 640383, 770849 devices may be used at potentials not exceeding 600V based on Dielectric Voltage-Withstand testing conducted at 2200Vac.

11. For PCB edge connectors not employing an integral keying feature, the construction and/or mating orientation shall be of such a design that the polarization cannot be defeated by improper assembly during installation in the end product.