

CONNECTORS/
APPLIANCES
MTA, CST-100 II and SL-156 Connectors

## Introduction

This catalog has been designed to assist you, our customer, identify products to satisfy your connector needs for printed circuit board headers, mass termination connectors preloaded with contacts, crimp-snap contacts and housings, and card edge connectors with preloaded contacts. The list at right identifies by centerline the types of product available and is meant to be of assistance to you in the product selection process.


Crimp CST-100 II


IDC MTA-156
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Crimp
SL-156

## Need More Information?

Call Technical Support at the numbers listed on the back of this catalog.
Technical Support is staffed with specialists well versed in TE products. They can provide you with:

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CONNECTOR SELECTION GUIDE

| Product <br> Name |  |  |  |  | $\begin{aligned} & \stackrel{N}{N} \\ & \stackrel{N}{N} \\ & \stackrel{0}{N} \\ & \underset{3}{3} \end{aligned}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## .100" Centerline

| MTA-100 IDC Connectors and Headers | $\begin{aligned} & .100 \\ & 2.54 \end{aligned}$ | IDC | Planned | 2-28 | 28-22 | $\begin{aligned} & .060^{*} \\ & 1.52 \end{aligned}$ | 5 | 250 | $\begin{gathered} -55 \text { to } \\ +105 \end{gathered}$ | $\begin{gathered} V-0 \& \\ V-2 \end{gathered}$ | Yes | - ${ }^{18}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CST-100 II <br> Contacts and Housings | $\begin{aligned} & .100 \\ & 2.54 \end{aligned}$ | Crimp | Planned | 2-28 | 26-22 | $\begin{aligned} & .065 \\ & 1.65 \end{aligned}$ | 4 | 250 | $\begin{gathered} -55 \text { to } \\ +105 \end{gathered}$ | V-O | Yes | $1{ }^{6}$ |

.156" Centerline

| MTA-156 Connectors and Headers | $\begin{aligned} & .156 \\ & 3.96 \end{aligned}$ | IDC | Yes | 2-24 | 16-18 | $\begin{gathered} .095^{*} \\ 2.41 \end{gathered}$ | 7 | 600 | $\begin{gathered} -55 \text { to } \\ +105 \end{gathered}$ | $\begin{gathered} \mathrm{V}-\mathrm{O} \& \\ \mathrm{~V}-2 \end{gathered}$ | Yes | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SL-156 <br> Contacts and Housings | $\begin{aligned} & .156 \\ & 3.96 \end{aligned}$ | Crimp | No | 1-24; 2-10 w/ through board latch | 24-18 | $\begin{aligned} & .105 \\ & 2.67 \end{aligned}$ | 10 | 250 | $\begin{gathered} -25 \text { to } \\ +105 \end{gathered}$ | V-O | Yes | - |
| SL-156 Large Ins. Dia. (LID) Contacts and Housings | $\begin{aligned} & .156 \\ & 3.96 \end{aligned}$ | Crimp | No | 2-24 | 24-16 | $\begin{gathered} .112 \\ 2.84 \end{gathered}$ | 10 | 250 | $\begin{gathered} -25 \text { to } \\ +105 \end{gathered}$ | V-O | Yes | - 5 |

*When terminated one position at a time.
${ }^{* *}$ Current Rating is application dependent.

## .100 [2.54] Centerline MTA-100 IDC Connectors and Headers

## PRODUCT FACTS

- Connectors and headers for 2 through 28 positions; wire sizes of 22, 24, 26 and 28 AWG [0.4-0.08 mm²]
- Wire-to-Post Connectors preloaded with dual beam contacts
- Connectors and headers, except shrouded headers, are end-to-end stackable
- Connector styles include both closed end and feed thru connectors with locking ramps, with and without polarizing tabs
- Molded ribs on housing do not allow reverse mating
- Posted connectors for 2 through 19 positions
- Connectors preloaded with IDC contacts
- All contacts are slotted for insulation displacement (IDC) terminal technique
- Contacts are lubricated for fretting corrosion protection
- Benefits derived from the MTA-100 system include increased quality and ease of handling such as:
- One-step assembly
- No wire stripping
- No contact damage
- Reduced wiring errors
- Simpler tooling
- Simple maintenance and repair
- Meets the material requirements of Table 23.1 of UL1410 Standards for Television Receiver and Video Products (wire-to post connectors only)
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR7189


## Technical Documents Product Specification

108-1050 MTA-100 Connectors
Application Specifications
114-1019 MTA-100 Connectors
114-1031 MTA-100 Ribbon Cable Assembly

MTA-100 connectors accept discrete and ribbon cable wire sizes ranging from 22-28 AWG [0.4-0.08 $\mathrm{mm}^{2}$ ] with maximum insulation outside diameter of . 060 [1.52] for terminating single wire and .050 [1.27] for mass termination of wires. Tin

(18) plated solid, fused stranded, or stranded (7 strands) wire with PVC insulation can be used on 22-28 AWG [0.4-0.9 $\mathrm{mm}^{2}$ ] MTA-100 connectors and 19 stranded wire on 22-24 AWG [0.4-0.2 mm²] MTA-100 connectors. Only one wire to be terminated into an IDC contact slot.

The wire-to-post connector housing material is flame retardant thermoplastic, either UL94V-2 or UL94V-O rated.

A full line of 100 [2.54] centerline headers completes the system. Headers are available with straight or right-angle posts, in flat, polarized or friction lock styles. Headers are available in 2 through 28 positions. Shrouded headers are available in 2 through 14 positions.

## Performance Data*

Voltage Rating-250 vac
Current Rating-5 amp max.

## Low-Level Resistance-

$6 \mathrm{~m} \Omega \mathrm{max}$. initial
Dielectric Withstanding Voltage-
750 vac/1 min.
Insulation Resistance-
$5000 \mathrm{M} \Omega \mathrm{min}$. initial
Operating Temperature-
$-55^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$

Note: Refer to page 52 for approved wire listings.
*Refer to the Product Specification for additional electrical, mechanical and environmental performance tests and requirements.

## MTA-100 Connector/Header Mateability Guide

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-100 header and connector combination. Where a " Y " is indicated the combination is a valid mating pair. Where an " N " is indicated the combination is not acceptable for mating.

Matrix for Tin Plated Part Numbers

*Select contact plating to match header plating.

## MTA-100 Connector/Header Mateability Guide (continued)

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-100 header and connector combination. Where a " Y " is indicated the combination is a valid mating pair. Where an " N " is indicated the combination is not acceptable for mating.

Matrix for
. 000030 [0.00076] Gold Plated Part Numbers

Headers

*Select contact plating to match header plating.

## Matrix for <br> . 000015 <br> [0.00038] <br> Gold Plated Part Numbers


*Select contact plating to match header plating.

## MTA-100 IDC Connectors-Closed End and Feed-Thru

## Material and Finish

Housing-UL94V-2 rated, nylon, see below for color; or UL94V-O rated, nylon, black

Contacts-Phosphor bronze, post tin plated, . 000030 [0.00076] or . 000015 [0.00038] post gold-plated over nickel

Color Coding by Wire Size for UL94V-2 Connectors

28 AWG-Green
26 AWG-Blue
24 AWG-White
22 AWG-Red
All wire sizes in UL94V-0-Black

For mateability options, see matrix on pages 5 and 6 .

For mating half visuals, see pages 13 thru 23.

## Notes:

1. Refer to pages $52-56$ for approved wire listing
2. For strain reliefs and dust covers, see page 9 .
3. For keying plugs, see page 10 .
4. Other circuit sizes are available upon request. Minimums may apply.
5. Connector circuits can be molded closed for keying purposes. Minimums may apply.
6. Where no part numbers appear in the chart, parts can be made available upon request. Minimums may apply.
7. To determine connector overall length (dim. A), multiply $.100 \times$ the number of circuits. Example: $.100 \times 10$ circuits equals 1.000 inch [ 25.4 mm ].

## Closed End Connectors



Without Polarizing Tabs


With Polarizing Tabs

## Feed-Thru Connectors



Without Polarizing Tabs


With Polarizing Tabs

## MTA-100 IDC Connectors-Closed End and Feed-Thru (continued)

## Connector Ordering Information

The "Base Part Numbers" Chart at right shows the base part number, and their RoHS (Restrictions on Certain Hazardous Substances) Compliant (lead free) equivalent available for the described connectors.
Prefixes and suffixes are determined by the number of circuit positions in the connector. For example, the complete part number for a 10-position closed end connector without polarizing tabs for 22 AWG wire would be:

```
Base number 640440 plus
    prefix-and-suffix
        4-- -0
```

The correct ordering number is 4-640440-0
All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-640440-2$ |
| 3 | $3-640440-3$ |
| 4 | $3-640440-4$ |
| 5 | $3-640440-5$ |
| 6 | $3-640440-6$ |
| 7 | $3-640440-7$ |
| 8 | $3-640440-8$ |
| 9 | $3-640440-9$ |
| 10 | $4-640440-0$ |
| 11 | $4-640440-1$ |
| 12 | $4-640440-2$ |
| 13 | $4-640440-3$ |
| 14 | $4-640440-4$ |
| 15 | $4-640440-5$ |
| 16 | $4-640440-6$ |
| 17 | $4-640440-7$ |
| 18 | $4-640440-8$ |
| 19 | $4-640440-9$ |
| 20 | $5-640440-0$ |
| 21 | $5-640440-1$ |
| 22 | $5-640440-2$ |
| 23 | $5-640440-3$ |
| 24 | $5-640440-4$ |
| 25 | $5-640440-5$ |
| 26 | $5-640440-6$ |
| 27 | $5-640440-7$ |
| 28 | $5-640440-8$ |

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

## Base Part Numbers

| Connector Type \& Wire Size | Closed End |  |  |  | Feed-Thru |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Without Tabs |  | With Tabs |  | Without Tabs |  | With Tabs |  |
|  | Connector Part Nos. | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. |
| Standard UL94V-2, Tin Plated |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \hline 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 640440 | 32-58 | 643813 | 32-58 | 640620 | 32-58 | $644540{ }^{1}$ | 32-45 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 640441 | 32-58 | 643814 | 32-58 | 640621 | 32-58 | $644563{ }^{1}$ | 32-54 |
| 26 AWG <br> $0.12-0.15 \mathrm{~mm}^{2}$ | 640442 | 32-58 | 643815 | 32-58 | 640622 | 32-58 | $644564{ }^{1}$ | 32-45 |
| $\begin{aligned} & 28 \text { AWG } \\ & 0.08-0.09 \mathrm{~mm}^{2} \end{aligned}$ | 640443 | 32-58 | 643816 | 32-58 | 640623 | 32-58 | $644565{ }^{1}$ | 32-45 |
| Tape Mounted on Reel UL94V-2, Tin Plated |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 640468 | 32-58 | 644511 | 42-68 | 641311 | 32-58 | - | - |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 640469 | 32-58 | 644512 | 32-58 | 641312 | 32-58 | - | - |
| 26 AWG <br> $0.12-0.15 \mathrm{~mm}^{2}$ | 640470 | 32-58 | 644513 | 32-58 | 641313 | 32-58 | - | - |
| $\begin{aligned} & 28 \text { AWG } \\ & 0.08-0.09 \mathrm{~mm}^{2} \end{aligned}$ | 640471 | 32-58 | 644514 | 32-58 | 641314 | 32-58 | - | - |
| Standard UL94V-2, .000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { 22 AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 641237 | 32-58 | 644042 | 32-58 | 641241 | 32-58 | $644702^{1}$ | 32-45 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 641238 | 32-58 | 644020 | 32-58 | 641242 | 32-58 | - | - |
| 26 AWG <br> $0.12-0.15 \mathrm{~mm}^{2}$ | 641239 | 32-58 | $644043{ }^{1}$ | 32-44 | 641243 | 32-58 | $644726^{1}$ | 32-45 |
| $\begin{aligned} & 28 \text { AWG } \\ & 0.8-0.9 \mathrm{~mm}^{2} \end{aligned}$ | 641240 | 32-58 | $644044^{1}$ | 32-44 | 641244 | 32-58 | - | - |
| Standard UL94V-2, .000015 [0.00038] Gold Plated |  |  |  |  |  |  |  |  |
| 22 AWG <br> $0.3-0.4 \mathrm{~mm}^{2}$ | 641190 | 32-58 | $644038{ }^{1}$ | 32-44 | 641198 | 32-58 | 647477 | 32-46 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 641191 | 32-58 | $1744020^{1}$ | 32-44 | 641199 | 32-58 | - | - |
| 26 AWG <br> $0.12-0.15 \mathrm{~mm}^{2}$ | 641192 | 32-58 | $644040^{1}$ | 32-44 | 641200 | 32-58 | 647480 | 32-43 |
| $\begin{aligned} & \text { 28 AWG } \\ & 0.08-0.09 \mathrm{~mm}^{2} \end{aligned}$ | 641193 | 32-58 | - | - | 641201 | 32-58 | - | - |
| LED*, UL94V-2, Tin Plated (See Note 1) |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 641534 | 32-33 | - | - | 641653 | 32-33 | - | - |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 641535 | 32-33 | 644795 | 32-33 | 641654 | 32-33 | - | - |
| 26 AWG <br> $0.12-0.15 \mathrm{~mm}^{2}$ | 641536 | 32-33 | - | - | 641655 | 32-33 | - | - |
| $\begin{aligned} & \hline 28 \text { AWG } \\ & 0.08-0.09 \mathrm{~mm}^{2} \\ & \hline \end{aligned}$ | 641537 | 32-33 | - | - | 641656 | 32-33 | - | - |

Standard UL94V-0, Tin Plated (Gold is available, minimums may apply.) (Black in color)

| 22 AWG <br> O.3-0.4 mm |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2 4 ~ A W G}$ <br> $0.2 ~ m m^{2}$ | $643498^{1}$ | $\mathbf{3 2 - 4 5}$ | $644083^{1}$ | $\mathbf{3 2 - 4 5}$ | $644575^{1}$ | $\mathbf{3 2 - 4 5}$ | $644578^{1}$ | $\mathbf{3 2 - 4 5}$ |
| $\mathbf{2 6}$ AWG <br> $0.12-0.15$ <br> $\mathrm{~mm}^{2}$ | $644574^{1}$ | $\mathbf{3 2 - 4 5}$ | $644312^{1}$ | $\mathbf{3 2 - 4 5}$ | $644576^{1}$ | $\mathbf{3 2 - 4 5}$ | $644579^{1}$ | $\mathbf{3 2 - 4 5}$ |

*LED connectors are designed to mate with .014-.020 [0.36-0.51] diameter posts or square leads.
${ }^{1}$ Other circuit sizes are available upon request. Minimums may apply.
${ }^{2}$ Tape mounted.
Note: Blocked circuit configurations are available. Contact product engineer or product manager for details. Minimums may apply.

## MTA-100 IDC Connector Accessories

## Covers

## Material (RoHS Compliant)

Strain Relief Cover-UL94V-2 rated, nylon, white

Dust Covers-UL94V-O rated, polyester, white

## Cover Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of circuits available for the described cover.

Prefixes and suffixes are determined by the number of circuit positions in the cover. For example, the complete part number for a 10-position closed end strain relief cover would be:

Base number 643075 plus prefix-and-suffix

$$
1---0
$$

The correct ordering number is
1-643075-0

## Closed End Strain Relief Covers

Closed End Dust Covers


Feed-Thru Strain Relief Covers


Feed-Thru Dust Covers


Base Part Numbers

| Closed End |  |  |  | Feed-Thru |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Strain Relief Covers |  | Dust Covers |  | Strain Relief Covers |  | $\begin{aligned} & \text { Dust } \\ & \text { Covers } \end{aligned}$ |  |
| Cover Part Nos. | No. of Circuits | Cover Part Nos. | No. of Circuits | Cover Part Nos. | No. of Circuits | Cover Part Nos. | No. of Circuits |
| 643075 | 2-28 | 640550 | 2-28 | 643077 | 2-28 | 640642 | 3-28 |

Cover Length

| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 2 | .200 <br> 5.08 | -2 |
| 3 | .300 <br> 7.62 | -3 |
| 4 | .400 <br> 10.16 | -4 |
| 5 | .500 <br> 12.7 | -5 |
| 6 | .600 <br> 15.24 | -6 |
| 7 | .700 <br> 17.78 | -7 |
| 8 | .800 <br> 20.32 | -8 |


| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | ---: | :---: |
| 9 | .900 <br> 22.86 | -9 |
| 10 | 1.00 <br> 25.4 | $1--0$ |
| 11 | 1.100 <br> 27.94 | $1--1$ |
| 12 | 1.200 <br> 30.48 | $1--2$ |
| 13 | 1.300 <br> 33.02 | $1--3$ |
| 14 | $\mathbf{1 . 4 0 0}$ |  |
| 35.56 | $1--4$ |  |
| 15 | $\mathbf{1 . 5 0 0}$ |  |
|  | 38.1 | $1--5$ |


| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | ---: | :---: |
| 16 | 1.600 <br> 40.64 | $1--6$ |
| 17 | 1.700 <br> 43.18 | $1--7$ |
| 18 | $\mathbf{1 . 8 0 0}$ <br> 45.72 | $1--8$ |
| 19 | $\mathbf{1 . 9 0 0}$ <br> 48.26 | $1--9$ |
| 20 | $\mathbf{2 . 0 0 0}$ <br> 50.8 | $2--0$ |
| 21 | $\mathbf{2 . 1 0 0}$ <br> 53.34 | $2--1$ |
| 22 | $\mathbf{2 . 2 0 0}$ <br> 55.88 | $2--2$ |


| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 23 | 2.300 <br> 58.42 | $2--3$ |
| 24 | 2.400 <br> 60.96 | $2--4$ |
| 25 | 2.500 <br> 63.5 | $2--5$ |
| 26 | 2.600 <br> 66.04 | $2--6$ |
| 27 | 2.700 <br> 68.58 | $2--7$ |
| 28 | 2.800 <br> 71.12 | $2--8$ |

## MTA-100 IDC Connector Accessories (continued)

## Keying Plug with Carrier Strip (10 plugs per strip) Part No. 641994-1

## Material (RoHS Compliant)

UL94V-2 rated, nylon, natural color


Note: Removal of contact is not necessary when using keying plug.


## Replacement IDC Contacts

## Material and Finish

Phosphor bronze, post tin plated;
.000030 [0.00076] or . 000015
[0.00038] post gold plated over nickel

| Wire Size |  | Part Numbers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| AWG | mm ${ }^{2}$ | Standard Tin Plated | $\begin{gathered} .000030[0.00076] \\ \text { Gold Plated } \end{gathered}$ | $\begin{gathered} .000015 \text { [0.00038] } \\ \text { Gold Plated } \end{gathered}$ | LED <br> Tin Plated |
| 22 | 0.3-0.4 | 640636-3 | 641186-4 | 641186-3 | 641643-2 |
| 24 | 0.2 | 640637-3 | 641187-4 | 641187-3 | 641644-2 |
| 26 | 0.12-0.15 | 640638-3 | 641188-4 | 641188-3 | 641645-2 |
| 28 | 0.08-0.09 | 640639-3 | 641189-4 | 641189-3 | 641646-2 |

Note: TE does not recommend terminating an MTA contact more than one time. Use replacement contacts when required for field repairs or wire changes.

## Crimp Snap-In Contacts

Material and Finish
Phosphor bronze, tin plated.



| Wire Size |  |  | Part Nos. |  |
| :---: | :---: | :---: | :---: | :---: |
| AWG | mm $^{2}$ |  | Loose Piece* | Strip** |
| $26-22$ | $0.12-0.4$ | $640709-2$ | $640708-2$ |  |

*Hand Tool No. 59836-1 (IS 408-6527)
**Applicator No. 466747-1 (IS 408-8040)
Special applications for crimp snap-in contacts are:

1. Double wire per contact
2. Coax or shielded wire
3. Mixed wire size in same connector

Note: Only one crimp snap-in contact per connector.

## MTA-100 Connector/Connector Mateability Guide

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-100 posted connector and connector combination. Where a " Y " is indicated the combination is a valid mating pair. Where an " N " is indicated the combination is not acceptable for mating.

Matrix for
Tin Plated
Part Numbers

*2 \& 3 position MTA-100 Posted Connectors can not mate with MTA-100 connectors with polarizing tabs.

## MTA-100 Connector/Connector Mateability Guide (continued)

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-100 posted connector and connector combination. Where a " Y " is indicated the combination is a valid mating pair. Where an " N " is indicated the combination is not acceptable for mating.

Matrix for . 000030 [0.00076] Gold Plated Part Numbers

*2 \& 3 position MTA-100 Posted Connectors can not mate with MTA-100 connectors with polarizing tabs.

## Matrix for . 000015 [0.00038] Gold Plated Part Numbers

## Posted Connectors


*2 \& 3 position MTA-100 Posted Connectors can not mate with MTA-100 connectors with polarizing tabs.

## MTA-100 IDC Posted Connectors (Wire-to-Wire)—Closed End, Feed-Thru

## Material and Finish

Housing-UL94V-2 rated, nylon, see chart for color

Contacts-Copper alloy, post tin or gold plated over nickel (see chart)

Note: 1. Mating half visuals - pages 7 \& 8 .
2. Use feed thru strain relief covers \& feed thru dust covers (if needed)-page 9
3. Approved wire listing-pages 52-56.


## Connector Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of circuit positions in the connector. For example, the complete part number for a 12-position closed end connector for 22 AWG wire would be:

Base number 647000 plus prefix-and-suffix 4- - -2
The correct ordering number is

## 4-647000-2

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-647000-2$ |
| 19 | $4-647000-9$ |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

Color Coding by Wire Size for UL94V-2
Connectors
22 AWG-Red
24 AWG-White
26 AWG-Blue
28 AWG-Green

Performance Data
Voltage Rating-250 vac
Current Rating-5 amp max.
Low-Level Resistance-6 $\mathrm{m} \Omega$ max. initial
Dielectric Withstanding Voltage-
750 vac/1 min.
Insulation Resistance-5000 $\mathrm{M} \Omega \mathrm{min}$. initial Operating Temperature $-55^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$

## Closed End



## Base Part Numbers

| Connector Type \& Wire Size | Closed End Connector |  | Feed-Thru Connector |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Part Nos. | RoHS Equiv. | Part Nos. | No. of Circuits |
| Standard UL 94V-2, Tin Plated |  |  |  |  |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 647000 | 32-49 ${ }^{1}$ | 647004 | $-^{2}$ |
| 24 AWG 0.2 mm | 647001 | 32-49 ${ }^{1}$ | 647005 | $-^{2}$ |
| $\begin{gathered} \text { 26 AWG } \\ 0.12-0.15 \mathrm{~mm}^{2} \end{gathered}$ | 647002 | 32-49 ${ }^{1}$ | 647006 | - ${ }^{2}$ |
| $\begin{gathered} 28 \text { AWG } \\ 0.08-0.09 \mathrm{~mm}^{2} \\ \hline \end{gathered}$ | 647003 | 32-49 ${ }^{1}$ | 647007 | $-^{2}$ |
| Standard UL 94V-2, .000030 [0.00076] Gold Plated |  |  |  |  |
| $\begin{gathered} 22 \text { AWG } \\ 0.3-0.4 \mathrm{~mm}^{2} \end{gathered}$ | 647008 | 32-49 ${ }^{1}$ | 647012 | - ${ }^{2}$ |
| 24 AWG $0.2 \mathrm{~mm}^{2}$ | 647009 | 32-49 ${ }^{1}$ | 647013 | $-{ }^{2}$ |
| $\begin{gathered} \text { 26 AWG } \\ 0.12-0.15 \mathrm{~mm}^{2} \\ \hline \end{gathered}$ | 647010 | 32-49 ${ }^{1}$ | 647014 | $-{ }^{2}$ |
| $\begin{gathered} 28 \text { AWG } \\ 0.08-0.09 \mathrm{~mm}^{2} \\ \hline \end{gathered}$ | 647011 | 32-49 ${ }^{1}$ | 647015 | $-{ }^{2}$ |
| Standard UL 94V-2, .000015 [0.00038] Gold Plated |  |  |  |  |
| $\begin{gathered} 22 \text { AWG } \\ 0.3-0.4 \mathrm{~mm}^{2} \end{gathered}$ | 647016 | 32-49 ${ }^{1}$ | 647020 | $-{ }^{2}$ |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 647017 | 32-49 ${ }^{1}$ | 647021 | $-{ }^{2}$ |
| $\begin{gathered} \text { 26 AWG } \\ 0.12-0.15 \mathrm{~mm}^{2} \end{gathered}$ | 647018 | 32-49 ${ }^{1}$ | 647022 | $-^{2}$ |
| $\begin{gathered} 28 \text { AWG } \\ 0.08-0.09 \mathrm{~mm}^{2} \\ \hline \end{gathered}$ | 647019 | 32-49 ${ }^{1}$ | 647023 | $-^{2}$ |

12 and 3 position MTA-100 Posted Connectors (Closed End) can not mate with MTA-100 connectors with polarizing tabs. ${ }^{2}$ Parts may be manufactured upon request. Minimums may apply. Contact product engineer or product manager for details.

| No. of Circuits | Dim. |  |
| :---: | :---: | :---: |
|  | A | B |
| 2 | $\begin{gathered} .300 \\ {[7.62]} \end{gathered}$ | $\begin{gathered} .227 \\ \hline 5.77 \end{gathered}$ |
| 3 | $\begin{gathered} .400 \\ {[10.16]} \end{gathered}$ | $\begin{array}{r} .327 \\ {[8.31]} \end{array}$ |
| 4 | $\begin{gathered} .500 \\ {[12.70]} \end{gathered}$ | $\begin{gathered} .427 \\ {[10.85]} \end{gathered}$ |
| 5 | $\begin{gathered} . \mathbf{6 0 0} \\ {[15.24]} \end{gathered}$ | $\begin{gathered} .527 \\ {[13.39]} \end{gathered}$ |


| No. of Circuits | Dim. |  |
| :---: | :---: | :---: |
|  | A | B |
| 6 | $\begin{gathered} .700 \\ {[17.78]} \end{gathered}$ | $\begin{gathered} \mathbf{6 2 7} \\ {[15.93]} \end{gathered}$ |
| 7 | $\begin{gathered} .800 \\ {[20.32]} \end{gathered}$ | $\begin{gathered} \mathbf{7 2 7} \\ {[18.47]} \end{gathered}$ |
| 8 | $\begin{gathered} .900 \\ {[22.86]} \end{gathered}$ | $\begin{gathered} .827 \\ {[21.01]} \end{gathered}$ |
| 9 | $\begin{gathered} 1.000 \\ {[25.40]} \end{gathered}$ | $\begin{gathered} .927 \\ {[23.55]} \end{gathered}$ |


| No. of Circuits | Dim. |  |
| :---: | :---: | :---: |
|  | A | B |
| 10 | $\begin{gathered} 1.100 \\ {[27.94]} \end{gathered}$ | $\begin{aligned} & 1.027 \\ & {[26.09]} \\ & \hline \end{aligned}$ |
| 11 | $\begin{gathered} 1.200 \\ {[30.48]} \end{gathered}$ | $\begin{aligned} & 1.127 \\ & {[28.63]} \end{aligned}$ |
| 12 | $\begin{gathered} 1.300 \\ {[33.02]} \end{gathered}$ | $\begin{gathered} 1.227 \\ {[31.17]} \\ \hline \end{gathered}$ |
| 13 | $\begin{gathered} 1.400 \\ {[35.56]} \\ \hline \end{gathered}$ | $\begin{gathered} 1.327 \\ {[33.71]} \end{gathered}$ |


| No. of Circuits | Dim. |  |
| :---: | :---: | :---: |
|  | A | B |
| 14 | $\begin{aligned} & 1.500 \\ & \hline 3810 \end{aligned}$ | $\begin{gathered} 1.427 \\ {[36.25]} \end{gathered}$ |
| 15 | $\begin{gathered} 1.600 \\ {[40.64]} \end{gathered}$ | $\begin{aligned} & 1.527 \\ & {[38.79]} \end{aligned}$ |
| 16 | $\begin{gathered} 1.700 \\ {[43.18]} \end{gathered}$ | $\begin{gathered} 1.627 \\ {[41.33]} \end{gathered}$ |
| 17 | $\begin{gathered} 1.800 \\ {[45.72]} \end{gathered}$ | $\begin{aligned} & 1.727 \\ & {[43.87]} \\ & \hline \end{aligned}$ |
| 18 | $\begin{gathered} 1.900 \\ {[48.26]} \end{gathered}$ | $\begin{aligned} & 1.827 \\ & {[46.41]} \end{aligned}$ |
| 19 | $\begin{gathered} 2.000 \\ {[50.80]} \end{gathered}$ | $\begin{gathered} 1.927 \\ {[48.95]} \\ \hline \end{gathered}$ |

Technical Documents

## Product Specification

108-1050-1 MTA-100 Posted
Connector
Application Specification
114-1019
MTA-100 Connectors
Replacement IDC

## Contacts

Material and Finish

| Wire Size | Part Numbers |  |
| :---: | :---: | :---: |
|  |  |  |
| AWG mm ${ }^{2}$ | Plate | Gold Plated |
| 22 0.3-0.4 | 3-647030-1 | 3-647030 |
| $24 \quad 0.2$ | 3-647031-1 | 3-647031-2 |
| 26 0.12-0.15 | 3-647032-1 | 3-64 |
| 0.8-0 | 3-647033-1 |  |

Contacts-Copper alloy, post
tin or gold plated over nickel


## MTA-100 Flat Headers-Straight and Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, white
Contacts-Copper alloy, tin plated,
.000030 [0.00076] or . 000015

## [0.00038] gold over nickel

Note:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example: $.100 \times 10$ posts equals 1.000 inch [ 25.4 mm ]

For mateability options, see matrix on pages 5 and 6 .
For mating half visuals, see pages 7,8 and 24.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts would be:

Base number 641211 plus prefix-and-suffix

$$
4--0
$$

The correct ordering number is

$$
4-641211-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-641211-2$ |
| 28 | $5-641211-8$ |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

Note: Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

Straight Post (. 025 [0.64] Square)
Right-Angle Post (. 025 [0.64] Square)

$\mathrm{X}=.120$ [3.05] min., . 240 [6.1] max. when mated with MTA-100 Connector.
$\mathbf{X}=.120$ [3.05] min., when mated with CST-100 II Connector.


Recommended Mounting Hole Pattern for .062 [1.57] Thk. PC Board

Note: Consult Product Drawing for details on placing headers onto PC boards.

Base Part Numbers

| Straight Posts |  | Right-Angle Posts |  |
| :---: | :---: | :---: | :---: |
| Header <br> Part Nos. | No. of Post <br> RoHS Equiv. | Header <br> Part Nos. | No. of Posts/ <br> RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |
| 640452 |  |  | $\mathbf{2 - 2 8}$ |

## MTA-100 Narrow Flat Headers-Straight and Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, white
Contacts-Copper alloy, tin plated,
.000030 [0.00076] or . 000015

## [0.00038] gold over nickel

Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Headers without retentive legs are suitable for breakaway application.
3.2 or 3 retentive leg(s) per header, depending upon number of positions.
3. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail
4. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts minus ( - ) .012. Example: $.100 \times 10$ posts $-.012=.988$ inches [ 25.1 mm ].

For mateability options, see matrix on pages 5 and 6

For mating half visuals, see pages 7, 8 and 24 .

## Connector Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts and without retentive legs would be:

Base number 644456 plus
prefix-and-suffix
4- - - 0
The correct ordering number is

## 4-644456-0

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-644456-2$ |
| 28 | $5-644456-8$ |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.
Note: Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details

Straight Post (. 025 [0.64] Square)
Right-Angle Post (. 025 [0.64] Square)


Straight and Right-Angle Post with Retentive Legs


Recommended Mounting Hole Pattern for . 062
[1.57] Thk. PC Board

Recommended Mounting Hole Pattern for . 062
[1.57] Thk. PC Board
Note: Consult Product Drawing for details on placing headers onto PC boards.

Base Part Numbers

| Straight Posts |  |  |  | Right-Angle Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Without Retentive Legs |  | WithRetentive Legs |  | Without Retentive Legs |  | WithRetentive Legs |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS <br> Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |
| 644456 | 32-58 | 644695 | 32-58 | 644457 | 32-58 | 644694 | 32-58 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |
| 644884 | 2-28 | 644886 | 2-28 | 644885 | 2-28 | 644887 | 2-28 |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |  |  |
| 644888 | 2-28 | 644890 | 2-28 | 644889 | 2-28 | 644891 | 2-28 |

[^0]
## MTA-100 Polarized Headers-Straight and Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, white
Contacts-Copper alloy, tin plated,
.000030 [0.00076] or . 000015
[0.00038] gold over nickel
Note: 1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail. 3. All posts on retentive leg headers are bent.
4. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example: $.100 \times 10$ posts equals 1.000 inch [ 25.4 mm ].

For mateability options, see matrix on pages 5 and 6.

For mating half visuals, see pages 7, 8 and 24 .

## Connector Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts would be:

> Base number 641213 plus prefix-and-suffix $4--\mathbf{0}$

The correct ordering number is

$$
4-641213-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-641213-2$ |
| 28 | $5-641213-8$ |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.
Note: Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

Straight Post (. 025 [0.64] Square)
Right-Angle Post (. 025 [0.64] Square)


Retentive Leg




Retentive Leg


Recommended Mounting Hole Pattern for . 062 [1.57] Thk. PC Board


Recommended Mounting Hole Pattern for .062 [1.57] Thk. PC Board

Note: Consult Product Drawing for details on placing headers onto PC boards.
Base Part Numbers

| Straight Posts |  |  |  | Right-Angle Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Without Retentive Legs |  | WithRetentive Legs |  | Without Retentive Legs |  | With Retentive Legs |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |
| 640454 | 2-28 | 644876 | 2-28 | 640455 | 2-28 | 644877 | 2-28 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |
| 641213 | 32-58 | - | - | 641214 | 32-58 | - | - |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |  |  |
| 641124 | 32-58 | - | - | 641125 | 32-58 | - | - |

## MTA-100 Friction Lock Headers-Straight and Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, white
Contacts-Copper alloy, tin plated,
.000030 [0.00076] or . 000015
[0.00038] gold over nickel
Note: 1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail. 3. All posts on retentive leg headers are bent.
4. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example: $.100 \times 10$ posts equals 1.000 inch [ 25.4 mm ].

For mateability options, see matrix on pages 5 and 6.

For mating half visuals, see pages 7, 8 and 24 .

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts would be:

$$
\begin{gathered}
\text { Base number } 641215 \text { plus } \\
\text { prefix-and-suffix } \\
4---0
\end{gathered}
$$

The correct ordering number is

$$
4-641215-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Standard <br> Prefix/Suffix | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: | :---: |
| 2 | $641215-2$ | $3-641215-2$ |
| thru |  |  |
| 28 | $2-641215-8$ | $5-641215-8$ |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.
Note: Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

Straight Post (. 025 [0.64] Square)
Right-Angle Post (. 025 [0.64] Square)


Recommended Mounting Hole Pattern for . 062 [1.57] Thk. PC Board


Recommended Mounting Hole Pattern for .062 [1.57] Thk. PC Board

Note: Consult Product Drawing for details on placing headers onto PC boards.

## Base Part Numbers

| Straight Posts |  |  |  | Right-Angle Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Without Retentive Legs |  | With Retentive Legs |  | Without Retentive Legs |  | With Retentive Legs |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |
| 640456 | 2-28 | 644874 | 2-28 | 640457 | 2-28 | 644875 | 2-28 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |
| 641215 | 32-58 | - | - | 641216 | 32-58 | - | - |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |  |  |
| 641126 | 32-58 | - | - | 641127 | 32-58 | - | - |

## MTA-100 Headers with Retention Peg-Straight

## Material and Finish

Housing-UL94V-O rated, thermoplastic, black

Contacts-Copper alloy, tin plated,
000030 [0.00076] or . 000015
[0.00038] gold over nickel
Note: 1. Post(s) can be omitted for keying purposes Specify the desired post(s) to be omitted using the figure to identify Post No. 1 .
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail. 3. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example: $.100 \times 10$ posts equals 1.000 inch [ 25.4 mm ].

For mateability options, see matrix on pages 5 and 6.

For mating half visuals, see pages 7,8 and 24 .

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts would be:

> Base number 647609 plus
> prefix-and-suffix

$$
4---0
$$

The correct ordering number is

## 4-647609-0

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Standard <br> Prefix/Suffix | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: | :---: |
| 2 | $647609-2$ | $3-647609-2$ |
| 3 | $647609-3$ | $3-647609-3$ |
| 4 | $647609-4$ | $3-647609-4$ |
| 5 | $647609-5$ | $3-647609-5$ |
| 6 | $647609-6$ | $3-647609-6$ |
| 7 | $647609-7$ | $3-647609-7$ |
| 8 | $647609-8$ | $3-647609-8$ |
| 9 | $647609-9$ | $3-647609-9$ |
| 10 | $1-647609-0$ | $4-647609-0$ |
| 11 | $1-647609-1$ | $4-647609-1$ |
| 12 | $1-647609-2$ | $4-647609-2$ |

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

Friction Lock


Polarized


Note: Consult Product Drawing for details on placing headers onto PC boards.
Recommended Mounting Hole Pattern for . 062 [1.57] Thk. PC Board

Base Part Numbers

| Friction Lock |  | Polarized |  |
| :---: | :---: | :---: | :---: |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |
| 647609 | 32-42 | 647623 | 32-42 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |
| 647626 | 32-42 | 647624 | 32-42 |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |
| 647627 | 32-42 | 647625 | 32-42 |

## Note:

Select load headers (omitted pin headers) are available upon request Please contact product engineer or product manager for details.

## MTA-100 High Profile Headers-Right-Angle

## Material and Finish

Housing-UL94V-O rated, thermoplastic, black
Contacts-Copper alloy, tin plated,
000030 [0.00076] or . 000015
[0.00038] gold over nickel
Note: 1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example $100 \times 10$ posts equals 1.000 inch [ 25.4 mm ].
4. This product can be mounted in the middle of the PC Board as shown in the PCB layout.

For mateability options, see matrix on pages 5 and 6 .

For mating half visuals, see pages 7, 8 and 24 .

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with right-angle posts would be:

$$
\begin{aligned}
& \text { Base number } 647630 \text { plus } \\
& \text { prefix-and-suffix }
\end{aligned}
$$

$$
4---0
$$

The correct ordering number is

$$
4-647630-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-647630-2$ |
| 3 | $3-647630-3$ |
| 4 | $3-647630-4$ |
| 5 | $3-647630-5$ |
| 6 | $3-647630-6$ |
| 7 | $3-647630-7$ |
| 8 | $3-647630-8$ |
| 9 | $3-647630-9$ |
| 10 | $4-647630-0$ |
| 11 | $4-647630-1$ |
| 12 | $4-647630-2$ |

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

Friction Lock
Right-Angle Post
(. 025 [0.64] Square)


Polarized Right-Angle Post (. 025 [0.64] Square)


Note: Consult Product Drawing for details on placing headers onto PC boards.

## Recommended Mounting Hole Pattern

for . 062 [1.57] Thk. PC Board

Base Part Numbers


## Note:

Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

## MTA-100 Polarized High Temperature Headers-Straight and Right-Angle

## Material and Finish

Housing-
2-12 Position-UL94V-O rated, nylon, black 13-18 Position-UL94V-O rated, LCP, black
Posts-Copper alloy, tin plated,
.000030 [0.00076] or . 000015
[0.00038] gold over nickel
Note:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1 .
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example: $.100 \times 10$ posts equals 1.000 inch [ 25.4 mm ].

For mateability options, see matrix on pages 5 and 6.
For mating half visuals, see pages 7, 8 and 24.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts would be:

$$
\text { Base number } 647047 \text { plus }
$$ prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-647047-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-647047-2$ |
| 12 | thru |
| 13 | $4-647047-2$ |
| 18 | NA |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

For use with Infrared
Maximum Temperature $2-12$ Position: $280^{\circ} \mathrm{C}$
Reflow Process Rating: 13-18 Position: $235^{\circ} \mathrm{C}$

## Straight Post (. 025 [0.64] Square)

Right-Angle Post (. 025 [0.64] Square)


Note: Consult Product Drawing for details on placing headers onto PC boards.

Recommended Mounting Hole Pattern for . 062 [1.57] Thick PC Board

Base Part Numbers

| Straight Posts |  | Straight Posts (Tube Loaded) |  | Right-Angle Posts |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |
| 647047 | 32-42 | 647298 | 32-42 | 647048 | 32-42 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |
| 647109 | 32-42 | 647300 | 32-42 | 647114 | 32-42 |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |
| 647075 | 32-42 | 647299 | 32-42 | 647076 | 32-42 |

[^1]
## MTA-100 Friction Lock High Temperature Headers—Straight and Right-Angle

## Material and Finish

## Housing-

2-12 Position-UL94V-O rated, nylon, black 13-18 Position-UL94V-O rated, LCP, black

Posts-Copper alloy, tin plated,
000030 [0.00076] or . 000015
[0.00038] gold over nickel
Note: 1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example: $.100 \times 10$ posts equals 1.000 inch [ 25.4 mm ].

For mateability options, see matrix on pages 5 and 6.
For mating half visuals, see pages 7,8 and 24.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts would be:

Base number 647050 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-647050-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Standard <br> Prefix/Suffix | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: | :---: |
| 2 | $647050-2$ | $3-647050-2$ |
| thru |  |  |
| 12 | $1-647050-2$ | $4-647050-2$ |
| 13 | $1-647050-3$ | NA |
| 18 | thru |  |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

For use with Infrared
Maximum Temperature $2-12$ Position: $280^{\circ} \mathrm{C}$
Reflow Process

Straight Post (. 025 [0.64] Square)
Right-Angle Post (. 025 [0.64] Square)


Note: Consult Product Drawing for details on placing headers onto PC boards.

Recommended Mounting Hole Pattern for . 062 [1.57] Thick PC Board

Base Part Numbers

| Straight Posts |  | Straight Posts (Tube Loaded) |  | Right-Angle Posts |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |
| 647050 | 32-42 | 647295 | 32-42 | 647051 | 32-42 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |
| 647116 | 32-42 | 647297 | 32-42 | 647117 | 32-42 |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |
| 647078 | 32-42 | 647296 | 32-42 | 647079 | 32-42 |

[^2]
## MTA-100 Polarized and Friction Lock Surface Mount Headers—Straight

## Material and Finish

## Housing-

2-12 Position-UL94V-O rated, nylon, black 13-18 Position-UL94V-O rated, LCP, black Posts-Copper alloy, tin plated,
.000030 [0.00076] or . 000015
[0.00038] gold over nickel
Note: 1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1 .
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. To determine header overall length (dim. A) multiply $.100 \times$ the number of posts. Example: $.100 \times 10$ posts equals 1.000 inch [ 25.4 mm ].

For mateability options, see matrix on pages 5 and 6.

For mating half visuals, see pages 7, 8 and 24 .

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position surface mount polarized header would be:

Base number 647106 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-647106-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-647106-2$ |
| 12 | $4-647106-2$ |

See page 8 for an explanation of RoHS lead free equivalents.
Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

For use with Infrared Reflow Process

Polarized Header


Maximum Temperature $2-12$ Position: $280^{\circ} \mathrm{C}$
Rating:
13-18 Position: $235^{\circ} \mathrm{C}$

Friction Lock Header



Note: Consult Product Drawing for details on placing headers onto PC boards.

Recommended PC Board Layout for use with .010 [0.25] Thick Stencil

## Base Part Numbers

| Polarized Headers | Friction Lock Headers |
| :---: | :---: |
| Header RoHS <br> Part Nos. Equiv. | Header RoHS <br> Part Nos. Equiv. |
| Standard UL94V-0, Tin Plated |  |
| 647106 32-42 | 647166 32-42 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |
| 647108 32-42 | 647168 32-42 |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |
| $647107 \quad 32-42$ | 647167 32-42 |
| Tape Mount Part Numbers |  |
| Polarized Headers | Friction Lock Headers |
| Header RoHS <br> Part Nos. Equiv. | Header RoHS <br> Part Nos. Equiv. |
| Standard UL94V-0, Tin Plated |  |
| 647531 32-42 | 647502 32-42 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |
|  | 1744163 32-42 |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |
|  | 647467 32-42 |

Note: Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

## MTA-100 Shrouded Headers-Straight and Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, black
Posts-Copper alloy, tin plated, . 000030
[0.00076] gold over nickel
Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Headers with .000015 [0.00038] gold plated post are available upon request. Minimums may apply.
3. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.

For mateability options, see matrix on pages 5 and 6 .

For mating half visuals, see pages 7, 8 and 24 .

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts and with pegs would be:

Base number 644486 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

## 4-644486-0

See page 15 for an explanation of RoHS lead free equivalents.
Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request. Notes:

1. Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.
2. MTA-100 shrouded headers do not mate with CST-100 II housings.

## Straight Post (. 025 [0.64] Square) Right-Angle (. 025 [0.64] Square)



Recommended Mounting Hole Pattern foIRecommended Mounting Hole Pattern for . 062
. 062 [1.57] Thk. PC Board
[1.57] Thk. PC Board
(Solder Side of Board Shown)
(Solder Side of Board Shown)

## Base Part Numbers

| Straight Posts |  |  |  | Right-Angle Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| With Pegs |  | Without Pegs |  | Without Pegs Only |  |  |  |
|  |  | Front Bend | Rear Bend |  |
| Header Part Nos. | RoHS Equiv. |  |  | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |
| 644486 | 22-34 | 644861 | 22-34 | 644488 | 22-34 | 644803 | 22-34 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |
| 644487 | 22-34 | - | - | 644489 | 22-34 | - | - |

Header Length

| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 2 | .284 <br> 7.21 | $3--2$ |
| 3 | .384 |  |
| 9.75 | $3--3$ |  |
| 4 | $\mathbf{. 4 8 4}$ | $3--4$ |
| 5 | 12.29 | $\mathbf{. 5 8 4}$ |


| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 6 | .684 | $3--6$ |
| 7 | $\mathbf{. 7 8 4}$ | $3--7$ |
| 8 | .884 <br> 22.45 | $3--8$ |
| 9 | .984 <br> 24.99 | $3--9$ |


| No. of <br> Circuits | Dim. <br> $\mathbf{A}$ | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 10 | 1.084 <br> 27.53 | $4--0$ |
| 11 | 1.184 <br> 30.07 | $4--1$ |
| 12 | 1.284 <br> 32.61 | $4--2$ |
| 13 | 1.384 <br> 35.15 | $4--3$ |


| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 14 | $\mathbf{1 . 4 8 4}$ | $4--4$ |

## . 100 [2.54] Centerline CST-100 II Crimp Contacts and Housings

## PRODUCT FACTS

- Low cost wire-to-board interconnections
- Wide wire range for single contact
- Tin and gold plated contacts
- Mates with specified MTA and similar competitive notched headers
- Plastic latching feature in housing helps prevent contact backout
- Locking ramps and polarizing tabs are standard
- For keying purposes use keying plug 641994-1 (page 10)
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR7189

For mateability options, see matrix on pages 5 and 6.

For mating half visuals, see pages 13 thru 23 and 25.
See page 8 for an explanation of RoHS lead free equivalents.

## Performance Data

Voltage Rating-250 vac
Current Rating-4 amp max
Low-Level Resistance-
$6 \mathrm{~m} \Omega$ max. initial; $10 \mathrm{~m} \Omega$ max. initial
Dielectric Withstanding Voltage-
750 vac/1 min.
Insulation Resistance-1000 $\mathrm{M} \Omega \mathrm{min}$ initial; $100 \mathrm{M} \Omega$ min. final
Operating Temperature-
$-55^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$

## Technical Documents <br> Product Specification <br> 108-1948

Application Specifications
114-13036
Instruction Sheet
408-8493

## Application Tooling

Loose Piece Contacts-Hand Tool No. 58517-3 (408-4064)
Strip Contacts-AMP-O-LECTRIC Model "G" Termination Machine* Applicator No. 567373-3 (Request Catalog 65828)
AMP-O-MATIC Stripper-Crimper Machine* Applicator No. 567910-1 or 567827-1 (with CQM) (Request Catalog 65004)
AMPOMATOR CLS IIIG Lead Making Machine* (Request Catalog 82659)
*Requires applicators. For part numbers, call Technical Support.


Phosphor bronze, pretinned or . 000015 [.00038] gold, over nickel 000030 [0.00076] gold over nickel
Wire Range - 22-26 AWG [0.35-0.13 mm²]
Max. Ins. Dia. - . 065 [1.65]

## Housing*

## Material (RoHS Compliant)

UL94V-O rated, nylon, white

| No. of <br> Pos. | Dim. <br> $\mathbf{A}$ | Part <br> Numbers |
| :---: | :---: | :---: |
| 2 | $\mathbf{. 2 2 0}$ <br> 5.59 | $1375820-2$ |
| 3 | $\mathbf{. 3 2 0}$ <br> 8.13 | $1375820-3$ |
| 4 | .420 <br> 10.67 | $1375820-4$ |
| 5 | $\mathbf{. 5 2 0}$ <br> 13.21 | $1375820-5$ |
| 6 | $\mathbf{. 6 2 0}$ <br> 15.75 | $1375820-6$ |
| 7 | .720 <br> 18.29 | $1375820-7$ |
| 8 | .820 <br> 20.83 | $1375820-8$ |
| 9 | .920 <br> 23.37 | $1375820-9$ |
| 10 | 1.020 <br> 25.91 | $1-1375820-0$ |
| 11 | $\mathbf{1 . 1 2 0}$ <br> 28.45 | $1-1375820-1$ |
| 12 | $\mathbf{1 . 2 2 0}$ <br> 30.99 | $1-1375820-2$ |
| 13 | $\mathbf{1 . 3 2 0}$ <br> 33.53 | $1-1375820-3$ |
| 14 | $\mathbf{1 . 4 2 0}$ <br> 36.07 | $1-1375820-4$ |
| 15 | $\mathbf{1 . 5 2 0}$ <br> 38.61 | $1-1375820-5$ |


| No. of <br> Pos. | Dim. <br> $\mathbf{A}$ | Part <br> Numbers |
| :---: | :---: | :---: |
| 16 | $\mathbf{1 . 6 2 0}$ <br> 41.15 | $1-1375820-6$ |
| 17 | $\mathbf{1 . 7 2 0}$ <br> 43.69 | $1-1375820-7$ |
| 18 | $\mathbf{1 . 8 2 0}$ <br> 46.23 | $1-1375820-8$ |
| 19 | $\mathbf{1 . 9 2 0}$ <br> 48.77 | $1-1375820-9$ |
| 20 | $\mathbf{2 . 0 2 0}$ <br> 51.31 | $2-1375820-0$ |
| 21 | $\mathbf{2 . 1 2 0}$ <br> 53.85 | $2-1375820-1$ |
| 22 | $\mathbf{2 . 2 2 0}$ <br> 56.39 | $2-1375820-2$ |
| 23 | $\mathbf{2 . 3 2 0}$ <br> 58.93 | $2-1375820-3$ |
| 24 | $\mathbf{2 . 4 2 0}$ <br> 61.47 | $2-1375820-4$ |
| 25 | $\mathbf{2 . 5 2 0}$ <br> 64.01 | $2-1375820-5$ |
| 26 | $\mathbf{2 . 6 2 0}$ <br> 66.55 | $2-1375820-6$ |
| 27 | $\mathbf{2 . 7 2 0}$ <br> 69.09 | $2-1375820-7$ |
| 28 | $\mathbf{2 . 8 2 0}$ <br> 71.63 | $2-1375820-8$ |



## CST-100 II Shrouded Headers-Straight and Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, black Posts-Copper alloy, tin plated, or .000030 [0.00076] gold over nickel Notes: 1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1 .
2. Headers with . 000015 [0.00038] gold plated post are available upon request. Minimums may apply.
3. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.

For mateability options, see matrix on pages 5 and 6 .

For mating half visuals, see page 23 .

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight posts and with pegs would be:

Base number 644893 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-644893-0
$$

All part numbers are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-644893-2$ |
| 14 | $4-644893-4$ |

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.
Note:
CST-100 II shrouded headers only mate with CST-100 II housings. All the MTA-100 headers except the MTA-100 shrouded headers mate with CST-100 II housings.

Straight Post (. 025 [0.64] Square)
Right-Angle (. 025 [0.64] Square)


Note: Consult Product Drawing for details
Polarized Retention Peg on placing headers onto PC boards.


Recommended Mounting Hole Pattern for
062 [1.57] Thk. PC Board
Recommended Mounting Hole Pattern for . 062
[1.57] Thk. PC Board
(Solder Side of Board Shown)
(Solder Side of Board Shown)

## Base Part Numbers

| Straight Posts |  |  |  | Right-Angle Posts Without Pegs Only |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| With Pegs |  | Without Pegs |  |  |  |
| Header Part Nos. | No. of Posts/ oHS Equiv. | Header Part Nos. | No. of Posts/ RoHS Equiv. | Header Part Nos. | No. of Posts/ RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |
| 644893 | 32-44 | 644892 | 32-44 | 644894 | 32-44 |
| Standard UL94V-0, . 000030 [0.00076] Gold Plated |  |  |  |  |  |
| 644897 | 32-44 | 644896 | 32-44 | 644898 | 32-44 |

## Header Length

| No. of Circuits | $\underset{A}{\operatorname{Dim} .}$ | Prefix/ Suffix | No. of Circuits | $\underset{\mathbf{A}}{\mathrm{Dim} .}$ | Prefix/ Suffix | No. of Circuits | $\underset{A}{\operatorname{Dim} .}$ | Prefix/ Suffix |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | $\begin{aligned} & \hline .284 \\ & 7.21 \end{aligned}$ | 3-2 | 5 | $\begin{array}{r} .584 \\ 14.83 \end{array}$ | 3--5 | 8 | $\begin{gathered} .884 \\ 22.45 \end{gathered}$ | 3--8 |
| 3 | $\begin{aligned} & .384 \\ & 9.75 \end{aligned}$ | 3--3 | 6 | $\begin{gathered} .684 \\ 17.37 \end{gathered}$ | 3-6 | 9 | $\begin{array}{r} .984 \\ 24.99 \end{array}$ | 3-9 |
| 4 | $\begin{gathered} .484 \\ 12.29 \\ \hline \end{gathered}$ | 3--4 | 7 | $\begin{aligned} & \hline \mathbf{7 8 4} \\ & 19.91 \end{aligned}$ | 3-7 | 10 | $\begin{aligned} & 1.084 \\ & 27.53 \end{aligned}$ | 4--0 |

## . 156 [3.96] Centerline MTA-156 IDC Connectors and Headers

## PRODUCT FACTS

- Connectors and headers for 2 through 24 positions; wire sizes of $18,20,22$, 24 and 26 AWG [0.9-0.12 mm²]
- Connectors and headers, except shrouded headers, are end-to-end stackable
- Posted connectors for 2,3, 4, 6, 9, 12, 15 and 24 positions
- Card edge connectors for $3,6,9,12,15$, 18 and 20 through 24 positions
- Connectors preloaded with IDC contacts
- All contacts are slotted for insulation displacement (IDC) termination technique
- Connector styles include both closed end and feedthru, with and without locking ramps and polarizing tabs
- Molded ribs on housing do not allow reverse mating
- Contacts are lubricated for fretting corrosion protection
- Benefits derived from the MTA-156 system include increases quality and ease of handling such as-
- One-step assembly
- No wire stripping
- No contact damage
- Reduced wiring errors
- Simpler tooling
- Simple maintenance and repair
- Meets the material requirements of Table 23.1 of UL1410 Standards for Television Receiver and Video Products (wire-to post connectors only)
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association, File No. LR7189


MTA-156 connectors accept discrete and ribbon cable wire sizes ranging from 18 26 AWG [0.9-0.12 $\mathrm{mm}^{2}$ ] with maximum insulation outside diameter . 095 [2.41] for single wire and .070 [1.78] for mass termination of wires. Tin plated solid, fused stranded or stranded (7, 16, and 19 strands) wire with PVC insulation can be used on 18 AWG [0.8-0.9 mm²] MTA-156 connectors; 7, 10, and 19 stranded wire on 20 AWG [0.5-0.6 mm²] MTA-156 connectors; and 7 and 19 stranded wire on 22-26 AWG [0.4-0.12 mm²] MTA-156 connectors.

Only one wire to be terminated into an IDC contact slot.

Mass termination of wire provides the lowest applied cost because it drastically reduces the labor content of virtually any cable or harness assembly required.

The wire-to-post connector housing material is flame retardant thermoplastic, either UL94V-2 or UL94V-O rated.

A full line of 156 [3.96] centerline headers completes the system. Headers are available with straight or right-angle posts, in flat friction lock and shrouded styles. Headers are available in 2 through 24 positions.

Note: Refer to page 52 for approved wire listings

## Performance Data*

Voltage Rating-600 vac
Current Rating-7 amp max. for MTA-156 Connector

Low-Level Resistance-
$3.0 \mathrm{~m} \Omega$ max. initial
Dielectric Withstanding Voltage$2200 \mathrm{vac} / 1 \mathrm{~min}$.

Insulation Resistance-
$5000 \mathrm{M} \Omega \mathrm{min}$. initial
Operating Temperature-$-55^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$
*Refer to the Product Specification for additional electrical, mechanical and environmental performance tests and requirements.

## Technical Documents Product Specification

108-1051 MTA-156 Connectors

| Application Specifications |  |
| :--- | :--- |
| 114-1020 | MTA-156 Connectors, Posted <br> Connectors and Card Edge <br> Connectors |
| 114-1032 | MTA-156 Ribbon Cable <br> Assembly |

## MTA-156 Connector/Header Mateability Guide

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-156 header and connector combination. Where a " Y " is indicated the combination is a valid mating pair. Where an " N " is indicated the combination is not acceptable for mating.

Matrix for Tin Plated Part Numbers

## Headers



## MTA-156 Connector/Header Mateability Guide (continued)

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-156 header and connector combination. Where a " $Y$ " is indicated the combination is a valid mating pair. Where an " $N$ " is indicated the combination is not acceptable for mating.

Matrix for
. 000030 [0.00076] Gold Plated Part Numbers

## Headers

Matrix for . 000015 [0.00038] Gold Plated Part Numbers


## MTA-156 IDC Connectors-Closed End

## Material and Finish

Housing-UL94V-2 rated, nylon, see below for color; or UL94V-O rated, nylon, black

Contacts-Phosphor bronze, post tin plated, .000030 [0.00076] or . 000015 [0.00038] post gold plated over nickel

## Color Coding by Wire Size for UL94V-2 Connectors

26 AWG-Blue
24 AWG-White
22 AWG-Red
20 AWG-Yellow
18 AWG-Orange
All wire sizes in UL94V-O-Black

## Notes:

1. Only connectors with locking ramp and without polarizing tabs mate with posted connectors on page 38.
2. Refer to pages 52-56 for approved wire listing.
3. For strain reliefs and dust covers, see page 9
4.For keying plugs and panel mount end caps, see page 35
4. Other circuit sizes are available upon request. Minimums may apply.
5. Connector circuits can be molded closed for keying purposes. Minimums may apply.
6. Where no part numbers appear in the chart, parts can be made available upon request. Minimums may apply.
7. To determine connector overall length (dim. A), multiply $.156 \times$ the number of circuits. Example: .156 $\times 10$ circuits equals 1.560 inch [ 39.62 mm ].

## Closed End with Locking Ramp


without Polarizing Tabs


For mateability options, see matrix on pages 27 and 28 .
Mating half visuals for Closed End Connectors with Locking Ramp, see pages 38 thru 41, 43, 45, and 46, (42 and 44 Front Bend Headers only).

## Closed End without Locking Ramp



For mateability options, see matrix on pages 27 and 28 .
Mating half visuals for Closed End Connectors without Locking Ramp, see pages 39 thru 46.

## MTA-156 IDC Connectors-Closed End (continued)

## Connector Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of circuits available for the described connectors.

Prefixes and suffixes are determined by the number of circuit positions in the connector. For example, the complete part number for a 10-position closed end connector with locking ramp and without polarizing tabs for 18 AWG wire would be:

Base number 640426 plus
prefix-and-suffix
4- - -0

The correct ordering number is

## 4-640426-0

All part numbers bold face are the RoHS equivalent version. Example:
\(\left.$$
\begin{array}{cc}\begin{array}{c}\text { No. of } \\
\text { Pos. }\end{array} & \begin{array}{c}\text { Lead Free } \\
\text { RoHS }\end{array}
$$ <br>

Prefix/Suffix\end{array}\right]\)| $3-640426-2$ |  |
| :---: | :---: |
| 3 | $3-640426-3$ |
| 4 | $3-640426-4$ |
| 5 | $3-640426-5$ |
| 6 | $3-640426-6$ |
| 7 | $3-640426-7$ |
| 8 | $3-640426-8$ |
| 9 | $3-640426-9$ |
| 10 | $4-640426-0$ |
| 11 | $4-640426-1$ |
| 12 | $4-640426-2$ |
| 13 | $4-640426-3$ |
| 14 | $4-640426-4$ |
| 15 | $4-640426-5$ |
| 16 | $4-640426-6$ |
| 17 | $4-640426-7$ |
| 18 | $4-640426-8$ |
| 19 | $4-640426-9$ |
| 20 | $5-640426-0$ |
| 21 | $5-640426-1$ |
| 22 | $5-640426-2$ |
| 23 | $5-640426-3$ |
| 24 | $5-640426-4$ |

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

Base Part Numbers

| Connector Type <br> \& Wire Size | Closed End with Locking Ramp |  |  |  | Closed End without Locking Ramp |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Without Tabs |  | With Tabs |  | Without Tabs |  | With Tabs |  |
|  | $\begin{aligned} & \text { Connector } \\ & \text { Part } \\ & \text { Nos. } \end{aligned}$ | RoHS Equiv. | $\begin{aligned} & \text { Connector } \\ & \text { Part } \\ & \text { Nos. } \end{aligned}$ | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. |
| Standard UL94V-2, Tin Plated |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \hline 18 \text { AWG } \\ & 0.8-0.9 \mathrm{~mm}^{2} \end{aligned}$ | 640426 | 32-54 | 643817 | 32-54 | 640431 | 32-54 | $644461{ }^{1}$ | 32-44 |
| 20 AWG <br> $0.5-0.6 \mathrm{~mm}^{2}$ | 640427 | 32-54 | 643818 | 32-54 | 640432 | 32-54 | $644462^{1}$ | 32-44 |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 640428 | 32-54 | 643819 | 32-54 | 640433 | 32-54 | 6444631 | 32-44 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 640429 | 32-54 | 643820 | 32-54 | 640434 | 32-54 | $644464^{1}$ | 32-44 |
| $\begin{aligned} & 26 \text { AWG } \\ & 0.12-0.15 \mathrm{~mm}^{2} \\ & \hline \end{aligned}$ | 640430 | 32-54 | 643821 | 32-54 | 640435 | 32-54 | - | - |

Tape Mounted on Reel UL94V-2, Tin Plated

| $\begin{aligned} & \hline 18 \text { AWG } \\ & 0.8-0.9 \mathrm{~mm}^{2} \end{aligned}$ | 640472 | 32-54 | 644878 | 32-54 | 640477 | 32-54 | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 AWG <br> $0.5-0.6 \mathrm{~mm}^{2}$ | 640473 | 32-54 | - | - | - | - | - | - |
| $\begin{aligned} & \text { 22 AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 640474 | 32-54 | 644783 | 32-54 |  |  | $644791{ }^{1}$ | 32-44 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | - | - | - | - | 640480 | 32-54 | - | - |
| 26 AWG $0.12-0.15 \mathrm{~mm}^{2}$ | - | - | - | - | - | - | - | - |

Standard UL94V-2, . 000030 [0.00076] Gold Plated

| 18 AWG $0.8-0.9 \mathrm{~mm}^{2}$ | 641217 | 32-54 | $644460^{1}$ | 32-42 | 641222 | 32-54 | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 AWG <br> $0.5-0.6 \mathrm{~mm}^{2}$ | 641218 | 32-54 | $644663^{1}$ | 32-42 | 641223 | 32-54 | - | - |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 641219 | 32-54 | $644662^{1}$ | 32-42 | 641224 | 32-54 | $644687^{1}$ | 32-44 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 641220 | 32-54 | - | - | 641225 | 32-54 | - | - |
| $\begin{aligned} & 26 \text { AWG } \\ & 0.12-0.15 \mathrm{~mm}^{2} \end{aligned}$ | 641221 | 32-54 | - | - | 641226 | 32-54 | - | - |


| 18 AWG $0.8-0.9 \mathrm{~mm}^{2}$ | 641148 | 32-54 | $644284^{1}$ | 32-42 | 641153 | 32-54 | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 AWG <br> $0.5-0.6 \mathrm{~mm}^{2}$ | 641149 | 32-54 | - | - | 641154 | 32-54 | - | - |
| $\begin{aligned} & \hline 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 641150 | 32-54 | $647478{ }^{1}$ | 32-42 | 641155 | 32-54 | - | - |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 641151 | 32-54 | - | - | 641156 | 32-54 | - | - |
| $\begin{aligned} & 26 \text { AWG } \\ & 0.12-0.15 \mathrm{~mm}^{2} \end{aligned}$ | 641152 | 32-54 | - | - | 641157 | 32-54 | - | - |

Standard UL94V-0, Tin Plated (Black in color)

| 18 AWG <br> $0.8-0.9$ <br> $\mathrm{~mm}^{2}$ | 644860 | $\mathbf{3 2 - 4 2}$ | - | - | 644502 | $\mathbf{3 2 - 4 2}$ | $644082^{1}$ | $\mathbf{3 2 - 4 2}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 2}$ AWG <br> $0.3-0.4 \mathrm{~mm}^{2}$ | - | - | - | - | 644501 | $\mathbf{3 2 - 4 2}$ | $644566^{1}$ | $\mathbf{3 2 - 4 2}$ |

${ }^{1}$ Other circuit sizes are available upon request. Minimums may apply.

Note: Blocked circuit configurations are available upon request. Contact product engineer or product manager fordetails. Minimums may apply.

## MTA-156 IDC Connectors-Feed-Thru

## Material and Finish

Housing-UL94V-2 rated, nylon, see below for color; or UL94V-O rated, nylon, black

Contacts-Phosphor bronze, post tin plated, . 000030 [0.00076] or . 000015 [0.00038] post gold-plated over nickel

## Color Coding by Wire Size for UL94V-2 Connectors

26 AWG-Blue
24 AWG-White
22 AWG-Red
20 AWG-Yellow
18 AWG-Orange
All wire sizes in UL94V-0-Black

## Notes:

1. Only connectors with locking ramp and without polarizing tabs mate with posted connectors on page 38.
2. Refer to pages 52-56 for approved wire listing.
3. For strain reliefs and dust covers, see page 33 and 34
4.For keying plugs and panel mount end caps, see page 35 .
4. Other circuit sizes are available upon request. Minimums may apply.
5. Connector circuits can be molded closed for keying purposes. Minimums may apply
6. Where no part numbers appear in the chart, parts can be made available upon request. Minimums may apply.
7. To determine connector overall length (dim. A), multiply $.156 \times$ the number of circuits. Example: . 156 $\times 10$ circuits equals 1.560 inch [ 39.62 mm ].

## Feed-Thru with Locking Ramp


without Polarizing Tabs

with Polarizing Tabs
For mateability options, see matrix on pages 27 and 28.
Mating half visuals for Closed End Connectors with Locking Ramp, see pages 38 thru 41, 43, 45, and 46, (42 and 44 Front Bend Headers only).

## Feed-Thru without Locking Ramp


with Polarizing Tabs
For mateability options, see matrix on pages 27 and 28.
Mating half visuals for Closed End Connectors without Locking Ramp, see pages 39 thru 46.

## MTA-156 IDC Connectors-Feed-Thru (continued)

## Connector Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of circuits available for the described connectors.

Prefixes and suffixes are determined by the number of circuit positions in the connector. For example, the complete part number for a 10-position feed-thru connector with locking ramp and without polarizing tabs for 18 AWG wire would be:

Base number 640599 plus
prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-640599-0
$$

All part numbers bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-640599-2$ |
| 3 | $3-640599-3$ |
| 4 | $3-640599-4$ |
| 5 | $3-640599-5$ |
| 6 | $3-640599-6$ |
| 7 | $3-640599-7$ |
| 8 | $3-640599-8$ |
| 9 | $3-640599-9$ |
| 10 | $4-640599-0$ |
| 11 | $4-640599-1$ |
| 12 | $4-640599-2$ |
| 13 | $4-640599-3$ |
| 14 | $4-640599-4$ |
| 15 | $4-640599-5$ |
| 16 | $4-640599-6$ |
| 17 | $4-640599-7$ |
| 18 | $4-640599-8$ |
| 19 | $4-640599-9$ |
| 20 | $5-640599-0$ |
| 21 | $5-640599-1$ |
| 22 | $5-640599-2$ |
| 23 | $5-640599-3$ |
| 24 | $5-640599-4$ |

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

Base Part Numbers

| Connector Type \& Wire Size | Feed-Thru with Locking Ramp |  |  |  | Feed-Thru without Locking Ramp |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Without Tabs |  | With Tabs |  | Without Tabs |  | With Tabs |  |
|  | Connector Part Nos. | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. | Connector Part Nos. | RoHS Equiv. |
| Standard UL94V-2, Tin Plated |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 18 \text { AWG } \\ & 0.8-0.9 \mathrm{~mm}^{2} \end{aligned}$ | 640599 | 32-54 | $644465^{1}$ | 32-44 | 640604 | 32-54 | $644469{ }^{\prime}$ | 32-44 |
| 20 AWG <br> $0.5-0.6 \mathrm{~mm}^{2}$ | 640600 | 32-54 | $644466^{1}$ | 32-44 | 640605 | 32-54 | 644470' | 32-44 |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 640601 | 32-54 | $644467{ }^{1}$ | 32-44 | 640606 | 32-54 | $644471{ }^{1}$ | 32-44 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | 640602 | 32-54 | $644468{ }^{1}$ | 32-44 | 640607 | 32-54 | - | - |
| $\begin{aligned} & 26 \text { AWG } \\ & 0.12-0.15 \mathrm{~mm}^{2} \\ & \hline \end{aligned}$ | 640595 | 32-54 | - | - | 640608 | 32-54 | - | - |

Tape Mounted on Reel UL94V-2, Tin Plated

| $\begin{aligned} & \hline 18 \text { AWG } \\ & 0.8-0.9 \mathrm{~mm}^{2} \end{aligned}$ | 641302 | 32-54 | - | - | - | - | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \hline \text { 20 AWG } \\ & 0.5-0.6 \mathrm{~mm}^{2} \end{aligned}$ | - | - | - | - | - | - | - | - |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | - | - | - | - | - | - | - | - |
| $\begin{aligned} & 24 \mathrm{AWG} \\ & 0.2 \mathrm{~mm}^{2} \end{aligned}$ | - | - | - | - | - | - | - | - |
| $\begin{aligned} & \hline 26 \text { AWG } \\ & 0.12-0.15 \mathrm{~mm}^{2} \end{aligned}$ | - | - | - | - | - | - | - | - |

Standard UL94V-2, . 00003 [.00076] Gold Plated

| $\begin{aligned} & \hline 18 \text { AWG } \\ & 0.8-0.9 \mathrm{~mm}^{2} \end{aligned}$ | - | - | $644718{ }^{1}$ | 32-44 | 641232 | 32-54 | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 20 AWG } \\ & 0.5-0.6 \mathrm{~mm}^{2} \end{aligned}$ | - | - | - | - | 641233 | 32-54 | - | - |
| $\begin{aligned} & \hline 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | - | - | $644720^{1}$ | 32-44 | 641234 | 32-54 | - | - |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | - | - | - | - | 641235 | 32-54 | - | - |
| 26 AWG $0.12-0.15 \mathrm{~mm}^{2}$ | 641231 | 32-54 | - | - | 641236 | 32-54 | - | - |
| Standard UL94V-2, . 000015 [.00038] Gold Plated |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 18 \text { AWG } \\ & 0.8-0.9 \mathrm{~mm}^{2} \end{aligned}$ | 641168 | 32-54 | $647479{ }^{1}$ | 32-42 | - | - | - | - |
| 20 AWG <br> $0.5-0.6 \mathrm{~mm}^{2}$ | - | - | - | - |  |  | - | - |
| $\begin{aligned} & 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | 641170 | 32-54 | $647496{ }^{1}$ | 32-42 | 641175 | 32-54 | - | - |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | - | - | - | - | - | - | - | - |
| $\begin{aligned} & \text { 26 AWG } \\ & 0.12-0.15 \mathrm{~mm}^{2} \\ & \hline \end{aligned}$ | - | - | - | - | - | - | - | - |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |  |
| 18 AWG $0.8-0.9 \mathrm{~mm}^{2}$ | - | - | - | - | - | - | $644570^{1}$ | 32-42 |
| $\begin{aligned} & \hline 22 \text { AWG } \\ & 0.3-0.4 \mathrm{~mm}^{2} \end{aligned}$ | - | - | - | - | - | - | - | - |

Other circuit sizes are available upon request. Minimums may apply.

Note: Blocked circuit configurations are available upon request. Contact product engineer or product manager for details. Minimums may apply.

## MTA-156 Connector Accessories

## Covers

Material (RoHS Compliant)
Strain Relief Covers-UL94V-2 rated, nylon, white

Dust Covers-UL94V-O rated, polyester, white

## Feed-Thru Covers

## Material (RoHS Compliant)

Strain Relief Cover-UL94V-2 rated,
nylon, white
Dust Covers-UL94V-O rated, polyester, white

Strain Relief Covers

may or may not be present


Base Part Numbers

| Closed End |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Strain Relief <br> Covers |  |  | Dust <br> Covers |  |
| Cover No. of <br> Part Nos. Circuits |  | Cover <br> Part Nos. | No. of <br> Circuits |  |
| 643067 | $2-24$ |  | 640551 | $2-24$ |

## Dust Covers



Base Part Numbers

| Feed-Thru |  |  |  |
| :---: | :---: | :---: | :---: |
| Strain Relief Covers |  | Dust Covers |  |
| Cover Part Nos. | No. of Circuits | Cover Part Nos. | No. of Circuits |
| 643071 | 2-24 | 640643 | 2-24 |

Cover Length

| No. of <br> Circuits | Dim. <br> A | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 2 | .312 <br> 7.92 | -2 |
| 3 | .468 <br> 11.89 | -3 |
| 4 | .624 <br> 15.85 | -4 |
| 5 | .780 <br> 19.81 | -5 |
| 6 | .936 <br> 23.77 | -6 |
| 7 | $\mathbf{1 . 0 9 2}$ <br> 27.74 | -7 |
| 8 | $\mathbf{1 . 2 4 8}$ <br> 31.7 | -8 |
| 9 | $\mathbf{1 . 4 0 4}$ <br> 35.66 | -9 |


| No. of <br> Circuits | Dim. <br> $\mathbf{A}$ | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 10 | $\mathbf{1 . 5 6 0}$ <br> 39.62 | $1--0$ |
| 11 | 1.716 <br> 43.59 | $1--1$ |
| 12 | $\mathbf{1 . 8 7 2}$ |  |
| 47.55 | $1--2$ |  |
| 13 | $\mathbf{2 . 0 2 8}$ <br> 51.51 | $1--3$ |
| 14 | $\mathbf{2 . 1 8 4}$ <br> 55.47 | $1--4$ |
| 15 | $\mathbf{2 . 3 4 0}$ <br> 59.44 | $1--5$ |
| 16 | $\mathbf{2 . 4 9 6}$ <br> 63.4 | $1--6$ |
| 17 | $\mathbf{2 . 6 5 2}$ <br> 67.36 | $1--7$ |


| No. of <br> Circuits | Dim. <br> $\mathbf{A}$ | Prefix/ <br> Suffix |
| :---: | :---: | :---: |
| 18 | $\mathbf{2 . 8 0 8}$ <br> 71.32 | $1--8$ |
| 19 | $\mathbf{2 . 9 6 4}$ <br> 75.29 | $1--9$ |
| 20 | 3.120 <br> 79.25 | $2--0$ |
| 21 | 3.276 <br> 83.21 | $2--1$ |
| 22 | $\mathbf{3 . 4 3 2}$ <br> 87.17 | $2--2$ |
| 23 | $\mathbf{3 . 5 8 8}$ <br> 91.14 | $2--3$ |
| 24 | $\mathbf{3 . 7 4 4}$ <br> 95.1 | $2--4$ |

## MTA-156 Connector Accessories (continued)

## Replacement IDC Contacts

## Material and Finish

Contacts-Phosphor bronze, post tin plated, . 000030 [0.00076] or . 000015 [0.00038] post gold plated over nickel

Notes: TE does not recommend terminating an MTA contact more than one time. Use replacement contacts when required for field repairs or wire changes.


| Wire Size |  | Part Numbers |  |  |
| :---: | :---: | :---: | :---: | :---: |
| AWG | $\mathbf{m m}{ }^{2}$ |  | $\mathbf{O} 00030$ <br> [0.00076] <br> Gold Plated | .000015 <br> [0.00038] <br> Gold Plated |
| 18 | $0.8-0.9$ | $640631-3$ | $641143-4$ | $641143-3$ |
| 20 | $0.5-0.6$ | $640632-3$ | $641144-4$ | $641144-3$ |
| 22 | $0.3-0.4$ | $640633-3$ | $641145-4$ | $641145-3$ |
| 24 | 0.2 | $640634-3$ | $641146-4$ | $641146-3$ |
| 26 | $0.12-0.15$ | $640635-3$ | $641147-4$ | $641147-3$ |

## Crimp Snap-in Contacts

## Material and Finish

Contacts-Phosphor bronze, tin plated


[^3]
## MTA-156 Connector Accessories (continued)

## Keying Plugs

Material (RoHS Compliant)
UL94V-2 rated, nylon, natural color
Note: Removal of contact is not necessary when using keying plug.

## Loose Piece

Part No. 640629-1 (Flush)
Used with keyed headers


Part No. 640630-1 (Long Nose) Used with staked post


On Carrier Strip
Part No. 641623-1 (Flush) (10 per strip)


## Panel Mount End Caps

Part No. 641440-1
Part No. 641533-1
(2-position only)
Material (RoHS Compliant)
UL94V-2 rated, nylon, black
Notes:

1. Both left-hand and right-hand end caps are attached by a connecting tab. This tab must be broken off prior to installing on connector.
2. For best results attach panel mount end caps to the MTA-156 (IDC) connectors shown on pages 29 thru 32. While not preferred, panel mount end caps can be attached to MTA-156 (IDC) posted connector on page 38.

| No. of Pos. | Dim. A |
| :---: | :---: |
| 3 | $\begin{gathered} .736 \\ 18.69 \end{gathered}$ |
| 4 | $\begin{gathered} .892 \\ 22.66 \end{gathered}$ |
| 6 | $\begin{aligned} & 1.204 \\ & 30.58 \end{aligned}$ |
| 9 | $\begin{aligned} & 1.672 \\ & 42.47 \end{aligned}$ |
| 12 | $\begin{aligned} & 2.140 \\ & 54.36 \end{aligned}$ |
| 15 | $\begin{aligned} & 2.608 \\ & 66.24 \end{aligned}$ |
| 24 | $\begin{aligned} & 4.012 \\ & 101.9 \end{aligned}$ |



3- thru 24-Position 641440-1
See Note 1



Two-Position Only 641533-1


Recommended Panel Cutout
(Recommended Panel Thickness . 062 [1.57] to . 067 [1.70] max.)

## MTA-156 Posted Connector/Connector Mateability Guide

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-156 posted connector and connector combination. Where a " Y " is indicated the combination is a valid mating pair. Where an " N " is indicated the combination is not acceptable for mating.

Posted Connectors

## Matrix for Tin Plated Part Numbers

|  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 640426 | Y | Y | Y | Y | Y | Y | Y | Y | Y |  |
| 640427 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 640428 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 640429 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 640430 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 640431 | N | N | N | N | N | N | N | N | N |  |
| 640432 | N | N | N | N | N | N | N | N | N | N |
| 640433 | N | N | N | N | N | N | N | N | N |  |
| 640434 | N | N | N | N | N | N | N | N | N |  |
| 640435 | N | N | N | N | N | N | N | N | N |  |
| 640472 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 640473 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 640474 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| 640477 | N | N | N | N | N | N | N | N | N |  |
| 640480 | N | N | N | N | N | N | N | N | N |  |
| 640595 | Y | $Y$ | Y | Y | Y | Y | Y | Y | Y |  |
| 640599 | Y | $Y$ | Y | Y | Y | Y | Y | Y | $Y$ |  |
| 640600 | Y | Y | Y | Y | Y | Y | Y | Y | $Y$ | Y |
| 640601 | Y | $Y$ | Y | Y | $Y$ | Y | Y | Y | Y | Y |
| + 640602 | Y | $Y$ | Y | Y | Y | Y | Y | Y | Y | Y |
| (1) 640604 | N | N | N | N | N | N | N | N | N |  |
| E 640605 | N | N | N | N | N | N | N | N | N |  |
| - 640606 | N | N | N | N | N | N | N | N | N |  |
| ソ 640607 | N | N | N | N | N | N | N | N | N |  |
| 640608 | N | N | N | N | N | N | N | N | N |  |
| 641302 | Y | Y | Y | Y | Y | Y | Y | Y | Y |  |
| 643817 | N | N | N | $N$ | N | N | N | N | N |  |
| 643818 | N | N | N | N | N | N | N | N | N |  |
| 643819 | N | N | N | N | N | N | N | N | N |  |
| 643820 | N | N | N | N | N | N | N | N | N |  |
| 643821 | N | N | N | N | N | N | N | N | N |  |
| 644082 | N | N | N | N | N | N | N | N | N |  |
| 644461 | N | N | N | N | N | N | N | N | N |  |
| 644462 | N | N | N | N | N | N | N | N | N |  |
| 644463 | N | N | N | N | N | N | N | N | N |  |
| 644464 | N | N | N | N | N | N | N | N | N |  |
| 644465 | N | N | N | N | N | N | N | N | N |  |
| 644466 | N | N | N | N | N | N | N | N | N |  |
| 644467 | N | N | N | N | N | N | N | N | N |  |
| 644468 | N | N | N | N | N | N | N | N | N |  |
| 644469 | N | N | N | N | N | N | N | N | N |  |
| 644470 | N | N | N | N | N | N | N | N | N |  |
| 644471 | N | N | N | N | N | N | N | N | N |  |
| 644501 | N | N | N | N | N | N | N | N | N |  |
| 644502 | N | N | N | N | N | N | N | N | N |  |
| 644566 | N | N | N | N | N | N | N | N | N |  |
| 644570 | N | N | N | N | N | N | N | N | N |  |
| 644783 | N | N | N | N | N | N | N | N | N |  |
| 644791 | N | N | N | N | N | N | N | N | N |  |
| 644860 | Y | Y | Y | Y | Y | Y | Y | Y | Y |  |
| 644878 | N | N | N | N | N | N | N | N | N |  |

## MTA-156 Posted Connector/Connector Mateability Guide (continued)

This matrix has been prepared to assist you, our customer, in defining the correct mating halves for the MTA-156 posted connector and connector combination. Where a " $Y$ " is indicated the combination is a valid mating pair. Where an " $N$ " is indicated the combination is not acceptable for mating.

Matrix for . 000030 [0.00076] Gold Plated Part Numbers

## Posted Connectors

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| 00000000 | 641217 | Y | Y | Y | $Y$ |  |
|  | 641218 | Y | Y | Y | $Y$ | Y |
|  | 641219 | Y | Y | Y | Y Y |  |
|  | 641220 | Y | Y | Y | Y Y | Y |
|  | 641222 | N | N | N | N |  |
|  | 641223 | N | N | N | N |  |
|  | 641224 | N | N | N | N |  |
|  | 641226 | N | N | N | N |  |
|  | 641227 | Y | Y | Y | Y Y | Y |
|  | 641228 | Y | Y | Y | $Y$ |  |
|  | 641229 | Y | Y | Y | $Y$ | Y |
|  | 641230 | Y | Y | Y | Y Y | , |
|  | 641235 | N | N | N | N |  |
|  | 644460 | N | N | N | N | N |
|  | 644662 | N | N | N | N |  |
|  | 644663 | N | N | N | N | N |
|  | 644718 | N | N | N | N |  |
|  | 644720 | N | N | N | N | N |

## Posted Connectors

Matrix for . 000015 [0.00038] Gold Plated Part Numbers


## MTA-156 IDC Posted Connectors (Wire-to-Wire)-Closed End, Feed-Thru

## Material and Finish

Housing-UL94V-2 rated, nylon, see chart for color
Contacts-Copper alloy, post tin or .000030 [.00076] gold plated over nickel


Note: 1. Mating half visuals - pages 29 \& 32
2. Strain relief \& dust covers - pages 33 \& 34 .
3. Approved wire listing - page 52

## Connector Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of circuits available for the described connectors.
Prefixes and suffixes are determined by the number of circuit positions in the connector. For example, the complete part number for a 12-position closed end connector for 18 AWG wire would be:

Base number 641435 plus prefix-and-suffix

$$
4---2
$$

The correct ordering number is 4-641435-2

See page 8 for an explanation of RoHS lead free equivalents.

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

## Color Coding by Wire Size <br> for UL94V-2 Connectors <br> 18 AWG-Orange <br> 20 AWG-Yellow <br> 22 AWG-Red <br> 24 AWG-White <br> 26 AWG-Blue

## Performance Data

Voltage Rating-600 vac
Current Rating-7 amp max.
Low-Level Resistance-7 $\mathrm{m} \Omega$ max. initial
Dielectric Withstanding Voltage-
$1500 \mathrm{vac} / 1 \mathrm{~min}$.
Insulation Resistance-5000 $\mathrm{M} \Omega$ min. initial Operating Temperature $-55^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$

Closed End


Feed-Thru


Base Part Numbers

| Connector Type \& Wire Size | Closed End Connector |  | Feed-Thru Connector |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Part Nos. | RoHS Equiv. | Part Nos. | RoHS Equiv. |
| Standard UL 94V-2, Tin Plated |  |  |  |  |
| $\begin{gathered} 18 \mathrm{AWG} \\ 0.8-0.9 \mathrm{~mm}^{2} \end{gathered}$ | 641435 | 32,33,34,36,39,42,45,54 | 641522 | 32,33,34,36,39,42,45,54 |
| $\begin{gathered} \text { 20 AWG } \\ 0.5-0.6 \mathrm{~mm}^{2} \end{gathered}$ | 641436 | 32,33,34,36,39,42,45,54 | 641523 | 32,33,34,36,39,42,45,54 |
| $\begin{gathered} 22 \text { AWG } \\ 0.3-0.4 \mathrm{~mm}^{2} \end{gathered}$ | 641437 | 32,33,34,36,39,42,45,54 | 641524 | 32,33,34,36,39,42,45,54 |
| 24 AWG $0.2 \mathrm{~mm}^{2}$ | 641438 | 32,33,34,36,39,42,45,54 | 641525 | 32,33,34,36,39,42,45,54 |
| $\begin{gathered} \hline \text { 26 AWG } \\ 0.12-0.15 \mathrm{~mm}^{2} \end{gathered}$ | 641439 | 32,33,34,36,39,42,45,54 | 641526 | 32,33,34,36,39,42,45,54 |
| Standard UL 94V-2, .000030 [0.00076] Gold Plated |  |  |  |  |
| $\begin{gathered} 18 \text { AWG } \\ 0.8-0.9 \mathrm{~mm}^{2} \end{gathered}$ | 644807 | 32,33,34,36,39,42,45,54 | 644812 | 32,33,34,36,39,42,45,54 |
| $\begin{gathered} \text { 20 AWG } \\ 0.5-0.6 \mathrm{~mm}^{2} \end{gathered}$ | -2 | - | -2 | - |
| $\begin{gathered} 22 \text { AWG } \\ 0.3-0.4 \mathrm{~mm}^{2} \end{gathered}$ | 644809 | 32,33,34,36,39,42,45,54 | 644814 | 32,33,34,36,39,42,45,54 |
| 24 AWG <br> $0.2 \mathrm{~mm}^{2}$ | -2 | - | $-2$ | - |
| 26 AWG $0.12-0.15 \mathrm{~mm}^{2}$ | -2 | - | $-{ }^{2}$ | - |


| Standard UL 94V-2, .000015 [0.00038] Gold Plated |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 18 AWG <br> $0.8-0.9 ~ m m^{2}$ | 647476 | $\mathbf{3 2 , 3 3 , 3 4 , 3 6 , 3 9 , 4 2 , 4 5 , 5 4}$ | 647481 | $\mathbf{3 2 , 3 3 , 3 4 , 3 6 , 3 9 , 4 2 , 4 5 , 5 4}$ |
| $\mathbf{2 2}$ AWG | 643995 | $\mathbf{3 2 , 3 3 , 3 4 , 3 6 , 3 9 , 4 2 , 4 5 , 5 4}$ | 647497 | $\mathbf{3 2 , 3 3 , 3 4 , 3 6 , 3 9 , 4 2 , 4 5 , 5 4}$ |

MTA-156 Posted Connectors (Closed End and Feed-Thru) will Only mate with MTA-156 connectors with locking ramp and without polarizing tabs. They will NOT mate with MTA-156 Quad Connectors.
${ }^{2}$ Parts can be made available upon request. Minimums may apply.

| No. of Circuits | Dim. |  | Suffix | No. of Circuits | Dim. |  | Prefix/ Suffix |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B |  |  | A | B |  |
| 2 | $\begin{aligned} & \hline .468 \\ & 11.89 \end{aligned}$ | $\begin{aligned} & .316 \\ & 8.03 \end{aligned}$ | -2 | 9 | $\begin{aligned} & 1.560 \\ & 39.62 \end{aligned}$ | $\begin{aligned} & 1.408 \\ & 35.76 \end{aligned}$ | -9 |
| 3 | $\begin{aligned} & \mathbf{6 2 4} \\ & \hline 15.85 \end{aligned}$ | $\begin{aligned} & .472 \\ & \hline 11.99 \end{aligned}$ | -3 | 12 | $\begin{aligned} & 2.028 \\ & 51.51 \end{aligned}$ | $\begin{aligned} & 1.876 \\ & 47.65 \end{aligned}$ | 1- -2 |
| 4 | $\begin{aligned} & 780 \\ & \hline 19.81 \end{aligned}$ | $\begin{aligned} & .628 \\ & 15.95 \end{aligned}$ | -4 | 15 | $\begin{aligned} & \mathbf{2 . 4 9 6} \\ & 63.40 \end{aligned}$ | $\begin{aligned} & \mathbf{2 . 3 4 4} \\ & 59.54 \end{aligned}$ | 1- -5 |
| 6 | $\begin{aligned} & 1.092 \\ & 27.74 \end{aligned}$ | $\begin{aligned} & .940 \\ & 23.88 \\ & \hline \end{aligned}$ | -6 | 24 | $\begin{aligned} & 3.900 \\ & 99.06 \end{aligned}$ | $\begin{aligned} & 3.748 \\ & 95.20 \end{aligned}$ | 2--4 |

Technical Documents
Product Specification
108-1065 MTA-156 Posted Connector

## Application Specification

 114-1020 MTA-156 Connectors, Posted Connectors and Card Edge ConnectorsReplacement IDC Contacts Material and Finish

Contacts - Copper alloy, post tin plated over nickel . 126


## MTA-156 Flat Headers-Straight

## Material and Finish

Housing-UL94V-O rated, polyester, white
Posts-Copper alloy, tin plated .000030
[0.00076] or .000015 [0.00038] gold over nickel
Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. 125 [3.18] solder tail lengths are for . 062 [1.57] thick printed circuit boards and 175 [4.45] solder tail lengths are for .093-.125 [2.36-3.18] thick printed circuit boards.
4. To determine header overall length (Dim. A), multiply $.156 \times$ the number of posts. Example: $.156 \times 10$ posts equals 1.560 inches [ 39.62 mm ].

For mateability options, see matrix on pages 27, 28, and 47 .
For mating half visuals, see pages 29 thru 32, 49 and 51.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with square posts and a 125 [3.18] solder tail length would be:

$$
\begin{gathered}
\text { Base number } 640383 \text { plus } \\
\text { prefix-and-suffix } \\
4--\mathbf{- 0}
\end{gathered}
$$

The correct ordering number is
4-640383-0

The part numbers in bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-640383-2$ |
| 24 | $5-640383-4$ |

See page 8 for an explanation of RoHS lead free equivalents.
Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

## Note:

Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.
 for . 062 [1.57] Thk. PC Board

Note: Consult Product Drawing for details on placing headers onto PC boards.

Base Part Numbers

| Square Posts |  |  |  | Round Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| . 125 [3.18] Solder tail |  | $.175 \text { [4.45] }$Solder tail |  | $\text { . } 125 \text { [3.18] }$ <br> Solder tail |  | . 175 [4.45] Solder tail |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |
| 640383 | 2-24 | 644749 | 2-24 | 640384 | 2-24 | 644750 | 2-24 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |
| 641202 | 32-54 | 644756 | 32-54 | 641203 | 32-54 | - | - |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |  |  |
| 641113 | 32-54 | 644763 | 32-54 | - | - | - | - |

## MTA-156 Flat Headers-Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, white
Posts-Copper alloy, tin plated .000030
[0.00076] or .000015 [0.00038] gold over nickel
Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. 125 [3.18] solder tail lengths are for . 062 [1.57] thick printed circuit boards and . 175 [4.45] solder tail lengths are for .093-.125 [2.36-3.18] thick printed circuit boards.
4. To determine header overall length (Dim. A), multiply. $156 \times$ the number of posts. Example: $.156 \times 10$ posts equals 1.560 inches [ 39.62 mm ].

For mateability options, see matrix on pages 27, 28, and 47.
For mating half visuals, see pages 29 thru 32, 49 and 51.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with square posts and a 125 [3.18] solder tail length would be:

$$
\text { Base number } 641204 \text { plus }
$$ prefix-and-suffix

4- - -0

The correct ordering number is 4-641204-0
The part numbers in bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-641204-2$ |
| 24 | thru |

See page 8 for an explanation of RoHS lead free equivalents.
Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.
Note:
Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.


Recommended Mounting Hole Pattern for .062 [1.57] Thk. PC Board
$\mathrm{X}=.140$ [3.56] Min., 430 [10.92] Max. when mated with MTA Connector.
$\mathrm{X}=.140$ [3.56] Min. when mated with SL-156 Wire-to-Board Connector.

Note: Consult Product Drawing for details on placing headers onto PC boards.


Retentive Leg


Recommended Mounting Hole Pattern for .063[1.60] Thk. PC Board for Retentive Leg Header
$\mathbf{Y}=.140$ [3.56] Min., . 430 [10.92] Max. when mated with MTA Connector.

Base Part Numbers

| Square Posts |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Retentive Leg |  | .125 [3.18] Solder tail |  | . 175 [4.45] Solder tail |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |
| 647646 | 2-12 | 640385 | 2-24 | 644751 | 2-24 |
| Standard UL94V-0, . 000030 [0.00076] Gold Plated |  |  |  |  |  |
| - | - | 641204 | 32-54 | - | - |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |
| - | - | - | - | - | - |

## MTA-156 Friction Lock Headers-Straight

## Material and Finish

Housing-UL94V-O rated, polyester, white
Posts-Copper alloy, tin plated .000030 [0.00076] or .000015 [0.00038] gold over nickel
Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. 125 [3.18] solder tail lengths are for . 062 [1.57] thick printed circuit boards and 175 [4.45] solder tail lengths are for .093-.125 [2.36-3.18] thick printed circuit boards.
4. To determine header overall length (Dim. A), multiply. $156 \times$ the number of posts. Example: $.156 \times 10$ posts equals 1.560 inches [ 39.62 mm ].

For mateability options, see matrix on pages 27, 28, and 47.

For mating half visuals, use connectors with a locking ramp for polarization/retention purposes, see pages 29 thru 32, 48,53 and 55.

For polarizing purposes only use connectors without a locking ramp. See pages 29 thru 32, 49 and 51.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.
Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with square posts and a 125 [3.18] solder tail length would be:

> Base number 641208 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-641208-0
$$

All part numbers in bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Standard <br> Prefix/Suffix | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: | :---: |
| 2 | $641208-2$ | $3-641208-2$ |
| thru |  |  |
| 24 | $2-641208-4$ | $5-641208-4$ |

See page 8 for an explanation of RoHS lead free equivalents.

Solder tail
Length

Recommended Mounting Hole Pattern for .062 [1.57] Thk. PC Board

| PC Board Hole Diameters |  |
| :---: | :---: |
| Square <br> Post | Round <br> Post |
| $.080 / .070$ | $.070 / .060$ <br> $[2.03 / 1.78]$ |



Note: Consult Product Drawing for details on placing headers onto PC boards.

Base Part Numbers

| Square Posts |  |  |  |  |  | Round Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RetentiveLeg |  | . 125 [3.18] <br> Solder tail |  | . 175 [4.45] <br> Solder tail |  | . 125 [3.18] <br> Solder tail |  | $\begin{aligned} & .175 \text { [4.45] } \\ & \text { Solder tail } \end{aligned}$ |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |  |  |
| 1744017 | 2 | 640445 | 2-24 | 644752 | 2-24 | 640388 | 2-24 | 644753 | 2-24 |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |  |  |
| - | - | 641208 | 32-54 | 644759 | 32-54 | 641209 | 32-54 | 644760 | 32-54 |
| Standard UL94V-0, . 000015 [0.00038] Gold Plated |  |  |  |  |  |  |  |  |  |
| - | - | 641119 | 32-54 | 644766 | 32-54 | 641120 | 32-54 | 644767 | 32-54 |

[^4]
## MTA-156 Friction Lock Headers—Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, white
Posts-Copper alloy, tin plated .000030
[0.00076] or . 000015 [0.00038] gold over nickel
Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1
2. Gold headers are duplex plated, gold on mating end of post and tin on the solder tail.
3. 125 [3.18] solder tail lengths are for . 062 [1.57] thick printed circuit boards and 175 [4.45] solder tail lengths are for .093-125 [2.36-3.18] thick printed circuit boards.
4. To determine header overall length (Dim. A), multiply $.156 \times$ the number of posts. Example: $.156 \times 10$ posts equals 1.560 inches [ 39.62 mm ].

For mateability options, see matrix on pages 27, 28, and 47.

When using Front Bend Headers-for mating half visuals use connectors with a locking ramp for polarization/ retention purposes. When using Rear Bend Headers-for mating half visuals use connectors without a locking ramp. For polarization purposes only see pages 29 thru 32, 49 and 51.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.
Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with square posts, front bend, and a . 125 [3.18] solder tail length would be:

> Base number 641210 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-641210-0
$$

All part numbers in bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Standard <br> Prefix/Suffix | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: | :---: |
| 2 | $641210-2$ | $3-641210-2$ |
| thru |  |  |
| 24 | $2-641210-4$ | $5-641210-4$ |

See page 8 for an explanation of RoHS lead free equivalents.


Recommended Mounting Hole Pattern for . 062 [1.57] Thk. PC Board

Front Bend
X $=.325$ [8.26] Min., . 400 [10.16] Max., when mated with MTA Connector.
$\mathbf{x}=.325$ [8.26] Min.,. 345 [8.76] Max., when mated with SL-156 Connector.


Rear Bend
$\mathbf{X}=.500$ [12.7] Min.,. 650 [16.51] Max., when mated with MTA Connector. $=.500$ [12.7] Min., when mated with SL-156 Connector.
$\mathbf{Y}=.068$ [1.73] Max. 2-8 position tin plated and 2-24 position gold plated headers.
$\mathbf{Y}=.073$ [1.85] 9-24 position tin plated headers.

Note: Consult Product Drawing for details on placing headers onto PC boards.
Base Part Numbers

| Square Posts |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Front Bend |  |  |  | Rear Bend |  |  |  |
| $\begin{aligned} & .125[3.18] \\ & . \\ & \text { Solder tail } \end{aligned}$ |  | $\begin{aligned} & .175[4.45] \\ & \text { Sold tail } \end{aligned}$ |  | . 125 [3.18] Solder tail |  | $\begin{aligned} & \hline 175 \text { [4.45] } \\ & \text { Solder tail } \\ & \hline \end{aligned}$ |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |  |  |
| 640389 | 2-24 | 644754 | 2-24 | 640387 | 2-24 | 644755 | 2-24 |
| Standard UL94V-0, . 000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |
| 641210 | 32-54 | 644761 | 32-54 | 641207 | 32-54 | - | - |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  | - | - |
| 641121 | 32-54 | 644768 | 32-54 | - | - | 644769 | 32-54 |

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

## Note:

Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

## MTA-156 Polarized Lock Headers—Straight

## Material and Finish

Housing-UL94V-O rated, polyester, white
Posts-Copper alloy, tin plated . 000030
[0.00076] gold over nickel

## Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Peg holes are not required in PC Boards when headers without pegs are used.
3. One peg only on a 2 position header, other position sizes have two pegs.
4. Headers with .00015 [0.00038] gold plated post are available upon request. Minimums may apply.
5. To determine header overall length (Dim. A), multiply $.156 \times$ the number of posts. Example: $.156 \times 10$ posts equals 1.560 inches [ 39.62 mm ].

For mateability options, see matrix on pages 27,28 , and 47

For mating half visuals, use connectors with a locking ramp for polarization/ retention purposes, see pages 29 thru 32,53 and 55.

For por polarizing purposes only use connectors without a locking ramp. See pages 29 thru 32, 49 and 51.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with square posts with pegs would be::

> Base number 644615 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-644615-0
$$

All part numbers in bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-644615-2$ |
| 18 | thru |

[^5] equivalents.


Recommended Mounting Hole Pattern for . 062 [1.57] Thk. PC Board

| PC Board Hole Diameters |  |
| :---: | :---: |
| Square <br> Post | Round <br> Post |
| $.069 / .065$ | $.054 / .050$ |
| $[1.75 / 1.65]$ | $[1.37 / 1.27]$ |

Note: Consult Product Drawing for details on placing headers onto PC boards.

## Base Part Numbers

| Square Posts |  |  |  | Round Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Without Pegs |  | With Pegs |  | Without Pegs |  | With Pegs |  |
| Header Part Nos. | RoHS <br> Equiv. | Header Part Nos. | RoHS <br> Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS <br> Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  | - | - | - | - |
| 644611 | 32-35 | 644615 | 32-48 | - | - | - | - |
| Standard UL94V-0, . 000030 [0.00076] Gold Plated |  |  |  |  |  |  |  |
| 644627 | 32-48 | 644631 | 32-35 | - | - | - | - |

[^6]
## MTA-156 Polarized Lock Headers-Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, white Posts-Copper alloy, tin plated .000030 [0.00076] gold over nickel

## Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Peg holes are not required in PC Boards when headers without pegs are used.
3. One peg only on a 2 position header, other position sizes have two pegs.
4. Headers with .00015 [0.00038] gold plated post are available upon request. Minimums may apply.
5. To determine header overall length (Dim. A), multiply $.156 \times$ the number of posts. Example: $.156 \times 10$ posts equals 1.560 inches [ 39.62 mm ].

For mateability options, see matrix on pages 27,28 , and 47 .

For mating half visuals, use connectors with a locking ramp for polarization/ retention purposes, see pages 29 thru 32, 53 and 55.

For polarizing purposes only use connectors without a locking ramp. See pages 29 thru 32, 49 and 51.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with front bend and with pegs would be:

> Base number 644617 plus prefix-and-suffix

$$
4---0
$$

The correct ordering number is

$$
4-644617-0
$$

All part numbers in bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-644617-2$ |
| 18 | thru |

[^7] equivalents.


Recommended Mounting Hole Pattern for . 062 [1.57] Thk. PC Board

Note: Consult Product Drawing for details on placing headers onto PC boards.

Base Part Numbers

| Square Posts |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Front Bend |  |  |  | Rear Bend |  |
| Without Pegs |  | With Pegs |  | Without Pegs |  |
| Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |
| 644613 | 32-48 | 644617 | 32-48 | - | - |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |
| - | - | 644633 | 32-48 | - | - |

[^8]
## MTA-156 Friction Lock High Temperature Headers-Straight

## Material and Finish

Housing-UL94V-O rated, nylon, black
Posts-Copper alloy, tin plated . 000015
[0.00038] gold over nickel
Temperature-Maximum Temperature Rating: $280^{\circ} \mathrm{C}$
Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin-lead on the solder tail.
3. Headers with straight and right-angle square posts are available upon request. Minimums may apply.
4. To determine header overall length (Dim. A), multiply $.156 \times$ the number of posts. Example: $.156 \times 10$ posts equals 1.560 inches [ 39.62 mm ].

For mateability options, see matrix on pages 27,28 , and 47.
For mating half visuals, use only connectors with a locking ramp for polarization/ retention purposes, see pages 29 thru 32, 53 and 55.

For polarizing purposes only use connectors without a locking ramp. See pages 29 thru 32, 49 and 51.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.
Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with round tin plated posts::

Base number 647648 plus
prefix-and-suffix

$$
4---0
$$

The correct ordering number is

## 4-647648-0

All part numbers in bold face are the RoHS equivalent version. Example:

| No. of <br> Pos. | Lead Free <br> RoHS <br> Prefix/Suffix |
| :---: | :---: |
| 2 | $3-647648-2$ |
| 18 | thru |

See page 8 for an explanation of RoHS lead free equivalents.

For use with Infrared Reflow Process




Note: Consult Product Drawing for details on placing headers onto PC boards.

## Base Part Numbers

| Round Post |  |
| :---: | :---: |
| Header <br> Part Nos. | RoHS <br> Equiv. |
| Standard UL94V-0, Tin Plated |  |
| 647648 | $\mathbf{3 2 - 4 2}$ |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |
| 647649 | $\mathbf{3 2 - 4 2}$ |

Note: All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.

## Note:

Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

## MTA-156 Shrouded Headers—Straight and Right-Angle

## Material and Finish

Housing-UL94V-O rated, polyester, black
Posts-Copper alloy, tin plated; or
. 000030 [0.00076] or . 000015
[0.00038] gold over nickel
Notes:

1. Post(s) can be omitted for keying purposes. Specify the desired post(s) to be omitted using the figure to identify Post No. 1.
2. Gold headers are duplex plated, gold on mating end of post and tin-lead on the solder tail.
3. Peg holes are not required in PC boards when headers without pegs are used.
4. One peg only on a 2 position header, other position sizes have two pegs.
5. Right-angle front and rear bend headers with retention pegs can be made available upon request. Minimums may apply

For mateability options, see matrix on pages 27, 28, and 47 .
For mating half visuals, see pages 29 thru 32.

## Header Ordering Information

The "Base Part Numbers" Chart at right shows the base part number and number of posts available for the described headers.

Prefixes and suffixes are determined by the number of post positions in the header. For example, the complete part number for a 10-position header with straight, square posts and with pegs would be:

> Base number 647127 plus prefix-and-suffix
> $4--\mathbf{- 0}$

The correct ordering number is

| 4-647127-0 |  |  |
| :---: | :---: | :---: |
| No. of Pos. | Dim. A | RoHS Prefix/Suffix |
| 2 | $\begin{aligned} & \hline .406 \\ & 10.31 \end{aligned}$ | 2--2 |
| 3 | $\begin{array}{r} .562 \\ 14.27 \\ \hline \end{array}$ | 2--3 |
| 4 | $\begin{gathered} .718 \\ 18.24 \\ \hline \end{gathered}$ | 2--4 |
| 5 | $\begin{gathered} .874 \\ 22.20 \\ \hline \end{gathered}$ | 2--5 |
| 6 | $\begin{aligned} & 1.030 \\ & 26.16 \\ & \hline \end{aligned}$ | 2--6 |
| 7 | $\begin{aligned} & 1.186 \\ & 30.12 \\ & \hline \end{aligned}$ | 2--7 |
| 8 | $\begin{aligned} & 1.342 \\ & 34.09 \\ & \hline \end{aligned}$ | 2--8 |
| 9 | $\begin{aligned} & 1.498 \\ & 38.05 \end{aligned}$ | 2--9 |
| 10 | $\begin{aligned} & 1.654 \\ & 42.01 \\ & \hline \end{aligned}$ | 3--0 |
| 11 | $\begin{aligned} & 1.810 \\ & 45.97 \end{aligned}$ | 3--1 |
| 12 | $\begin{aligned} & 1.966 \\ & 49.94 \\ & \hline \end{aligned}$ | 3--2 |

All RoHS equivalent part numbers may not be available upon catalog release. If the number you need is not available, please contact Product Engineering to expedite your request.


Base Part Numbers

| Straight Square Posts |  | Straight Round Posts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Without Pegs | With Pegs | Without Pegs |  | With Pegs |  |
| Header <br> Part Nos. RoHS <br> Equiv. | Header <br> Part Nos. RoHS <br> Equiv. | Header Part Nos. | RoHS <br> Equiv. | Header Part Nos. | RoHS Equiv. |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |
| $647123 \quad \mathbf{2 2 - 3 2}$ | $647127 \quad 22-32$ | - | - | - | - |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |
| - - | - - | - | - | - | - |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |
| - - | - - | - | - | - | - |
| Square Posts |  |  |  |  |  |
| Right-Angle Posts, Front Bend Without Pegs |  | Right-Angle Posts, Rear Bend Without Pegs |  |  |  |
| Header Part Nos. | RoHS Equiv. |  |  |  |  |
| Standard UL94V-0, Tin Plated |  |  |  |  |  |
| 647125 | 22-32 |  |  |  |  |
| Standard UL94V-0, .000030 [0.00076] Gold Plated |  |  |  |  |  |
| - | - |  |  |  |  |
| Standard UL94V-0, .000015 [0.00038] Gold Plated |  |  |  |  |  |
| - | - |  |  |  |  |

Note: Select load headers (omitted pin headers) are available upon request. Please contact product engineer or product manager for details.

## . 156 [3.96] Centerline SL-156 Crimp Contacts and Housings

## PRODUCT FACTS

- Rugged wire-to-board interconnection to mate with . 045 square or round post headers or staked posts on .156 centers
- Standard Connectors accept wire range of 18-24 AWG [0.9-0.2 mm] and LID Connectors accept wire range of 18-24 AWG [0.9-0.2 mm] and a limited 16 AWG [1.29-1.42 mm] (2550-2800 CMA)
- Two-piece interconnection system (connector/header)
- Housing made of flame retardant nylon
- Available in 1- through 24-position connector configurations
- Connectors are end-to-end stackable
- Wire-to-board system offers polarization with friction lock for positive mating
- Meets the material requirements of Table 23.1 of UL1410 Standard for High-Voltage Television Receivers and Video Productions
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476
- Certified by Canadian Standards Association,

The AMP SL-156 connectors shown on the following pages are designed to mate with . 045 [1.14] square or round post headers or staked posts on . 156 [3.96] centers.
The wire-to-board connector is a twopiece connector system with the wire crimped to the contact, then inserted into the housing. This product mates with the MTA-156 flat, polarized and friction lock header, or staked posts (not MTA-156 shrouded headers).


Performance Data*
Voltage Rating-250 vac
Current Rating-10 amp max. at 250 vac Low-Level Resistance-3.0 m $\Omega$ max. initial Dielectric Withstanding Voltage$2000 \mathrm{vac} / 1 \mathrm{~min}$.

Insulation Resistance-1000 $\mathrm{M} \Omega \mathrm{min}$. initial Operating Temperature $--55^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$
The Large Insulation Diameter (LID)
Contacts and Housings are for use in applications where wire insulation is up to .112 [2.84] in diameter.

These matrixes represent only the housing and header combinations. You also need to consider the plating on the contacts and headers. Gold contacts with gold headers and tin contacts with tin headers.

Matrix for Tin
Plated Part
Numbers

Matrix for . 000030
[0.00076] Gold
Plated Part Numbers

Matrix for . 000015
[0.00038] Gold
Plated Part Numbers


Headers


## SL-156 Crimp Contacts and Keying Plugs

## Contacts

## Material and Finish

. 012 [0.3] bright tin plated brass or phosphor bronze; . 012 [0.3] pre-tin brass; or . 012 [0.3] brass or phosphor bronze with .000030 [0.00076] gold over nickel (see chart)

- All tin-plated contacts are post lubricated to resist fretting corrosion
- Maximum insulation diameter is .105 [2.67]
- Wire range is 18-30 AWG [0.9-0.06 $\mathrm{mm}^{2}$ ]


## Application Note

Part No. 640252 has a higher mating and unmating force than Part No. 350980 and is recommended to be used only in housings with 1 through 12 positions.
Part No. 350980 can be used in any size housing but is recommended to be used in housings with 13 through 24 positions. Part No. 770476 is recommended for use in any size housing. Its mating force is similar to Part No. 350980 while unmating force is similar to 640252.

For housings, see pages 49 and 50.

## Keying Plugs

## Material (RoHS Compliant)

UL94V-2 rated, nylon, natural color


Hooded (Dual Wipe) (10 Amp. Max. Current Rating)

| Wire Size <br> AWG mm ${ }^{2}$ | Contact | Material and Finish | Part Numbers |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Strip | Loose Piece |
| $\begin{gathered} 24-30 \\ 0.2-0.06 \end{gathered}$ | A | brass, pre-tin plated | 641550-1 | - |
| $\begin{gathered} 18-24 \\ 0.9-0.2 \end{gathered}$ | A | brass, bright tin plated | 640252-1 | 640706-1 |
|  |  | brass, pre-tin plated | 640252-2 | 640706-2 |
|  |  | brass, RoHS Compliant | 3-640252-1 | 3-640706-1 |
|  | B | brass, bright tin plated | 350980-1 | 640707-1 |
|  |  | brass, pre-tin plated | 350980-2 | - |
|  |  | brass, gold plated | 350980-3 | 770258-1 |
|  |  | brass, RoHS Compliant | 3-350980-1 | 3-640707-1 |
|  | C | phosphor bronze, bright tin plated | 770476-1 | 770522-1 |
|  |  | phosphor bronze, gold plated | 770476-2 | 770522-2 |
|  |  | phosphor bronze, RoHS Compliant | 3-770476-1 | 3-770522-1 |

## Application Tooling

Extraction Tool
Part No. 90471-1

## Loose Piece Contacts

PRO-CRIMPER II Hand Tool Part No. 58614-1 (408-4228) [For field service use only] For CERTI-CRIMP hand tool, contact Technical Support.


Keying Plug
Part No. 640254-1

## Strip Contacts -

AMP-O-LECTRIC Model "G"
Termination Machine*
Applicator 680211-3
(Request Catalog 65828)
AMP-O-LECTRIC Model "K"
Termination Machine* Applicator 466468-2
AMP-O-MATIC Stripper-Crimper Machine* SCA 466947-1 or 567828-1 (with CQM) (Request Catalog 65004) AMPOMATOR CLS IV+ Lead Making Machine* Applicator 466468-1 (Request Catalog 82659)
*Requires applicators. For part numbers, call Technical Support.


Keying Pin
Part No. 640255-1

## SL-156 Housings-Wire-to-Board

## Housings

Material (RoHS Compliant)
UL94V-O rated, nylon, white

## Notes:

1. Accepts either . 045 [1.14] square or round posts. Housings mate with flat and friction lock headers, or staked posts on 156 [3.96] centers.
2. Housings without ramp, with polarizing tab, available upon request. Minimums may apply.
3. Recommend contact: Part No. 640252 for 1 thru 12 positions; Part No. 350980 for 13 thru 24 positions; Part No. 770476 for 1 thru 24 positions.

For contacts, see page 48.
For mateability options, see matrix on page 47.
For mating half visuals, for connectors with locking ramp, see pages $39,36,41$, 43 and 45 , ( 41 and 44 Front Bend Headers only.)
For mating half visuals, for connectors without locking ramp, see pages 35 thru 45.

(A) With Locking Ramp/With Polarizing Tabs

(B) With Locking Ramp/Without Polarizing Tabs

(C) Without Locking Ramp/Without Polarizing Tabs

Note: Dim. A $=0.156 \times($ No. of Positions -1$)+0.152$

| No. of <br> Positions* | Housing | Description | Part Numbers* |
| :---: | :---: | :---: | :---: |
| $2-24$ | A | With Locking Ramp and Polarizing Tabs | 770849 |
| $1-24$ | B | With Locking Ramp and without Polarizing Tabs | 640250 |
|  | C | Without Locking Ramp or Polarizing Tabs | 640251 |

*Base Part Number Prefixes and Suffixes indicate number of contact positions, e.g. 2 Position $=$ $0-x x x x x x-2$ and 12 Position $=1-x x x x x x-2$.

Note: Housings not for use with LID Contacts. Shown on page 51.

## SL-156 Housings With Through Board Latch

## Housings

Material (RoHS Compliant)
UL94V-O rated, nylon, white.

Mates with . 045 square or round staked posts only.

For contacts, see page 48.

Recommended PC Board Cutout for . 062 [1.57] Thick PC Board

| No. of <br> Pos. | Dimensions |  | Latch Location <br> Centered Between Pos. | Part <br> Number |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{A}$ | $\mathbf{. 3 1 2}$ | - | 1 and 2 | $770894-2$ |
| 2 | $\mathbf{7 . 9 2}$ | -468 | - | 1 and 2 |

Note: Not for use with LID Contacts.

## SL-156 Housings and Contacts for Large Insulation Diameter (LID) Wire

## Housings

## Material (RoHS Compliant)

UL94V-O rated, nylon, white
Notes:

1. Accepts Standard and LID contacts.
2. Larger opening in housings eases contact insertion when using wires that have large insulation diameters (.100-. 112 [2.54-2.84]).
3. Housings are not End-to-End stackable.

For mateability options, see matrix on page 47.
For mating half visuals, for connectors with locking ramp, see pages 39, 40, 41, 43 and 49, (42 and 44 Front Bend Headers only.)
For mating half visuals, for connectors without locking ramp, see pages 39 thru 45.

## Contacts

## Material and Finish

. 012 [0.3] bright tin plated phosphor bronze; . 012 [0.3] phosphor bronze with .000030 [0.00076] gold over nickel (see chart)

- All tin-plated contacts are post lubricated to resist fretting corrosion
- Maximum insulation diameter is . 112 [2.85]
- Wire range is 18-24 AWG [0.9-0.2 $\mathrm{mm}^{2}$ ] and a limited 16 AWG [1.29-1.42 $\mathrm{mm}^{2}$ ] (2550-2800 CMA)
Product Specifications
108-1049-1 and 108-1049-2


## Application Specification

114-1021

## Application Tooling

Extraction Tool Part No. 90471-1

## Loose Piece Contacts -

PRO-CRIMPER II Hand Tool
Part No. 91368-1 [18-24 AWG]
Part No. 91369-1 [16 AWG]
(For field service use only.)
For CERTI-CRIMP hand tool, contact Technical Support.

## Strip Contacts -

AMP-O-LECTRIC Model "G"
Termination Machine*
Applicator 1385048-3 [18-24 AWG]
Applicator 1385219-3 [16 AWG]
AMP-O-LECTRIC Model "K"
Termination Machine*
Applicator 1385048-2 [18-24 AWG]
Applicator 1385219-2 [16 AWG]
*For additional part numbers and information contact Technical Support.


Note: Dim. $A=0.156 \times($ No. of Positions -1$)+0.19$

| No. of <br> Positions* | Description | Part Numbers* |
| :---: | :---: | :---: |
|  | Housings <br> with Larger Openings <br> for Oversize Wire |  |
| $1-24$ | Without Locking Ramp <br> or Polarizing Tabs | 647400 |
|  | With Locking Ramp and <br> without Polarizing Tabs | 647401 <br> (shown above) |
| $2-24$ | With Locking Ramp and <br> Polarizing Tabs | 647402 |

*Base Part Number Prefixes and Suffixes indicate number of contact positions, e.g. 2 Position $=$ $0-x x \times x \times x-2$ and 12 Position $=1-x x x \times x x-2$.


Hooded (Dual Wipe) (10 Amp Max. Current Rating)

| Wire Size | Material | Plating | Part Numbers For LID* Wire |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Strip | Loose Piece |
| 18-24 AWG | Phosphor Bronze | Tin | 647406-1 | 647409-1 |
|  |  | Gold | 647406-2 | 647409-2 |
|  |  | RoHS Compliant | 3-647406-1 | 3-647409-1 |
| $\begin{gathered} 16 \text { AWG } \\ \text { (2550-2800 CMA only) } \end{gathered}$ | Phosphor Bronze | Tin | 647466-1 | 647485-1 |
|  |  | Gold | 647466-2 | 647485-2 |
|  |  | RoHS Compliant | 3-647466-1 | 3-647485-1 |

*Large Insulation Diameter (.100-. 112 [2.54-2.84])
Notes: 1. For information on application tooling, call Technical Support.
2. Can not be used with Standard SL-156 Housings, must be used with LID Housings only.

## MTA Wire Selection

Proper wire selection is critical to the success of a wire-to board application. The chart identifies wires that have been evaluated and approved by the product engineering section. If you plan to use a wire not on the approved list, please submit a sample 12 " length of wire to TE for evaluation.

## AWG Metric Equivalents

$18-0.8-0.9 \mathrm{~mm}^{2}$
$20-0.5-0.6 \mathrm{~mm}^{2}$
$22-0.3-0.4 \mathrm{~mm}^{2}$
$24-0.2 \mathrm{~mm}^{2}$
$26-0.12-0.15 \mathrm{~mm}^{2}$
$28-0.08-0.09 \mathrm{~mm}^{2}$

## Product Specifications

108-1050 - MTA-100 Connectors
108-1050-1 - MTA-100 Posted Connectors
108-1051 - MTA-156 Connectors
108-1219 - MTA-156 Quad Connector System
108-1065 - MTA-156 Posted Connectors
108-1058 - MTA-156 Card Edge
Connectors

## Application Specifications

114-1019 - MTA-100 Connectors
114-1020 - MTA-156 Connectors
114-1031 - MTA-100 Ribbon Cable Connector Assembly
114-1032 - MTA-156 Ribbon Cable Connector Assembly
114-1048 - MTA-156 Quad Connector

## MTA Connectors Approved Wire Listing

| MTA-100 Connectors | Wall | Approved Wire AWG |
| :---: | :---: | :---: |
| UL 1007 PVC Insulation | .015" [0.381] | 22, 24, 26, 28 |
| UL 1061 Semi-Rigid PVC Insulation | .009" [0.229] | 22, 24, 26, 28 |
| UL 1095 Semi-Rigid PVC Insulation | .012" [0.305] | 24 |
| UL 1371 TEFLON Insulation - TFE | .006" [0.152] | 22, 26 |
| UL 1429 Irradiated PVC - X.L.P.V.C. | .010" [0.254] | 22, 24, 26, 28 |
| UL 2464 PVC | .013" [0.330] | 24 |
| UL 3265 Irradiated Polyethylene - X.L.P.E. | .010" [0.254] | 22, 24 |
| UL 3266 Irradiated Polyethylene - X.L.P.E. | .015" [0.381] | 22, 24 |
| MIL-W-16878, Type B-PVC Insulation | .010" [0.254] | 22 |
| UL 1213 TEFLON Insulation-T.F.E. | .010" [0.254] | 22 |
| MTA-156 Connectors |  |  |
| UL 1007 PVC Insulation | .015" [0.381] | 18, 20, 22, 24 |
| UL 1061 Semi-Rigid PVC Insulation | .009" [0.229] | 18, 20, 22, 24 |
| UL 1180 TEFLON Insulation - T.F.E. | .015" [0.381] | 22 |
| UL 1213 TEFLON Insulation - T.F.E. | 010" [0.254] | 18, 22, 24 |
| UL 1316 PVC/Nylon Wall | .015" [0.381] | 18, 22 |
| UL 1429 Irradiated PVC - X.L.P.V.C. | .010" [0.254] | 18, 20, 22, 24 |
| UL 1430 Irradiated PVC - X.L.P.V.C. | .015" [0.381] | 18, 20, 22, 24 |
| UL 1569 PVC | .015" [0.381] | 18 |
| UL 3265 Irradiated Polyethylene - X.L.P.E. | .010" [0.254] | 22 |
| UL 3266 Irradiated Polyethylene - X.L.P.E. | .015" [0.381] | 18, 20, 22, 24 |

Note: When selecting approved wire styles noted on this list, the MTA Application Specifications guidelines must be followed. Also, due to wire variations in insulation wall thickness, hardness and wire stranding we would recommend evaluating the wire selected before final application approval.

TEFLON is a trademark of E.I. DuPont de Nemours and Company.


+ The dimensions shown represent the recommended minimum and maximum for notches; the actual dimension will depend on your application requirements.


## Notes:

1. Cable shall be notched, as indicated in the individual ribbon cable connector assembly drawing, according to the requirements specified in these figures. Conductor shall not be exposed after notching, nor shall individual wire stands be cut or nicked.
2. U.L. Style \#2651 ribbon cable is approved for use with MTA-100 and MTA-156 connectors per Application Specification 114-1031 and 114-1032.

## Notes:

1. For MTA Cable Assemblies Contact US Engineering Cable Assembly Group.
2. For IDC Cable, see pages 60 thru 63.
Ribbon Cable


Cable Edge-to-End Alignment
(Ends of the cable shall be prepared as indicated in this figure)

## IDC Ribbon Cable

## PRODUCT FACTS

- Compatible with a variety of Insulation Displacement Connectors
- Available on . 025 [0.63], . 0394 [1.00], . 050 [1.27], . 100 [2.54] and .156 [3.96] centerline
- Color code edge mark on conductor \#1
- Gray flame retardant flexible PVC insulation
- Insulation rated for temperature of $-20^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$
- Recognized under the Component Program of . 7 Underwriters Laboratories Inc., File No. E53793


TE has an expanding array of MADISON CABLE planar PVC insulated product designed for compatibility with a variety of Insulation Displacement Connectors. AMP IDC terminations offer a quick, reliable, cost-effective cabling system which can be automated.

The 100 [2.54] centerline cable is available in 28 to 22 AWG, either as tinned or as overcoated tinned wire, in 2 to 28 conductors.

The . 156 [3.96] centerline is available in 22 AWG and 18 AWG, either as tinned or overcoated tinned, in 2 to 24 conductors.

IDC Ribbon Cable is produced to tighter standards than usually required for high yield insulation displacement terminations. The extra precision offers uncomplicated operation in fully automatic stripping, notching and termination equipment.

## . 050 [1.27] Centerline, IDC Ribbon Cable

## Product Specifications

Voltage Rating-30 vac
Component Recognized by UL to US and Canadian Standards-AWM Style 2651

## Sizes

26 AWG, 7/34 Tinned copper, PVC insulation (9-64 conductors), 500 ft . reels (Base AMP Part Number 57034)
28 AWG, 7/36 Tinned copper, PVC insulation (9-64 conductors), 100 ft . reels (Base AMP Part Number 57040) and 500 ft. reels (Base AMP Part Number 971111)

30 AWG, Other conductor counts available on request. For ordering information, call Toll-Free: 1-877-623-4766 or visit: www.madisoncable.com/fsproducts.htm

## . 100 [2.54] Centerline, IDC Ribbon Cable, PVC Insulation



| No. of Conductors |  | Dimensions |  |  | Part Number |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | A | B | C |  |
| 28 AWG 7/32 Tinned Copper |  |  |  |  |  |
| 2 | 0.100 | [2.54] | 0.200 [5.08] | 0.044 [1.12] | 02WFY00006P |
| 5 | 0.400 | [10.16] | 0.500 [12.70] | 0.044 [1.12] | 05WFY00006P |
| 10 | 0.900 | [22.86] | 1.000 [25.40] | 0.044 [1.12] | 10WFY00006P |
| 15 | 1.400 | [35.56] | 1.500 [38.10] | 0.044 [1.12] | 15WFY00006P |
| 20 | 1.900 | [48.26] | 2.000 [50.80] | 0.044 [1.12] | 20WFY00006P |
| 25 | 2.400 | [60.96] | 2.500 [63.50] | 0.044 [1.12] | 25WFYOOOO6P |
| 28 | 2.700 | [68.58] | 2.800 [71.12] | 0.044 [1.12] | 28WFY00006P |

## 26 AWG 7/34 Tinned Copper

| 2 | 0.100 [2.54] | 0.200 [6.08] | 0.039 [.99] |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 0.400 [10.16] | 0.500 [12.70] | 0.039 [.99] | O5 |
| 10 | 0.900 [22.86] | 1.000 [25.40] | 0.039 [.99] | 10WEY00012P |
| 15 | 1.400 [35.56] | 1.500 [38.10] | 0.039 [.99] | 15 |
| 20 | 1.900 [48.26] | 2.000 [50.80] | 0.039 [.99] | 20WEY00008P |
| 25 | 2.400 [60.96] | 2.500 [63.50] | 0.039 [.99] | 25WEY00008P |
| 28 | 2.700 [68.58] | 2.800 [71.12] | 0.039 [.99] | 28WEY00008 |

## 26 AWG 7/34 Overcoated Tinned Copper

| 2 | $0.100[2.54]$ | $0.200[5.08]$ | $0.039[.99]$ | O2WEY00007P |
| :--- | :--- | :--- | :--- | :--- |
| 5 | $0.400[10.16]$ | $0.500[12.70]$ | $0.039[.99]$ | O5WEY00007P |
| 10 | $0.900[22.86]$ | $1.000[25.40]$ | $0.039[.99]$ | 10WEY00007P |
| 15 | $1.400[35.56]$ | $1.500[38.10]$ | $0.039[.99]$ | $15 W E Y 00007 P$ |
| 20 | $1.900[48.26$ | $] 2.000[50.80]$ | $0.039[.99]$ | $20 W E Y 00007 P$ |
| 25 | $2.400[60.96]$ | $2.500[63.50]$ | $0.039[.99]$ | $25 W E Y 00007 P$ |
| 28 | $2.700[68.58]$ | $2.800[71.12]$ | $0.03[.99]$ | $28 W E Y 00007 P$ |

Other Conductor Counts Available on Request.

## Contact MADISON CABLE (1-877-MADISON), a division of TE Connectivity, for engineering questions or for order placement of this cable.

| No. of Conductors |  | Dimensions |  |  | Part Number |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | A | B | C |  |
| 24 AWG 7/32 Overcoated Tinned Copper |  |  |  |  |  |
| 2 | 0.10 | [ [2.54] | 0.200 [5.08] | 0.044 [1.12] | O2WFY00007P |
| 5 | 0.40 | [10.16] | 0.500 [12.70] | 0.044 [1.12] | 05WFY00007P |
| 10 | 0.90 | [22.86] | 1.000 [25.40] | 0.044 [1.12] | 10WFY00007P |
| 15 | 1.40 | [35.56] | 1.500 [38.10] | 0.044 [1.12] | 15WFY00007P |
| 20 | 1.90 | [48.26] | 2.000 [50.80] | 0.044 [1.12] | 20WFY00007P |
| 25 | 2.40 | O [60.96] | 2.500 [63.50] | 0.044 [1.12] | 25WFY00007P |
| 28 | 2.70 | O [68.58] | 2.800 [71.12] | 0.044 [1.12] | 28WFY00007P |

22 AWG 7/30 Tinned Copper

| 2 | 0.100 [2.54] | 0.200 [5.08] | 0.051 [1.30] | 00 |
| :---: | :---: | :---: | :---: | :---: |
| 5 | 0.400 [10.16] | 0.500 [12.70] | 0.051 [1.30] | 05 |
| 10 | 0.900 [22.86] | 1.000 [25.40] | 0.051 [1.30] | 10WGY00002 |
| 15 | 1.400 [35.56] | 1.500 [38.10] | 0.051 [1.30] | 15WGYOOOO6P |
| 20 | 1.900 [48.26] | 2.000 [50.80] | 0.051 [1.30] | 20WGY00006P |
| 25 | 2.400 [60.96] | 2.500 [63.50] | 0.051 [1.30] | 25WGY00006 |
| 28 | 2.700 [68.58] | 2.800 [71.12] | 0.051 [1.30] | 28WGY00006P |

## . 156 [3.96] Centerline, Flat Ribbon Cable, PVC Insulation

## Product Specifications

Housing - 300 Volts
UL Recognized - AWM Style 2651
CSA -Available on request

| No. of | Dimensions |  |  | Part |
| :--- | :--- | :---: | :--- | :---: |
| Conductors | A | B | C | Number |

22 AWG 7/30 Tinned Copper

| 2 | $0.156[3.96]$ | $0.312[7.92]$ | $0.051[1.30]$ | $02 W G Y 00008 P$ |
| :--- | :--- | :--- | :--- | :--- |
| 5 | $0.624[15.85]$ | $0.780[19.81]$ | $0.051[1.30]$ | $05 W G Y 00008 P$ |
| 10 | $1.404[35.66]$ | $1.560[39.62]$ | $0.051[1.30]$ | $10 W G Y 00008 P$ |
| 15 | $2.184[55.47]$ | $2.340[59.44]$ | $0.051[1.30]$ | $15 W G Y 00008 P$ |
| 20 | $2.964[75.29]$ | $3.120[79.25]$ | $0.051[1.30]$ | $20 W G Y 00008 P$ |
| 24 | $3.588[91.14]$ | $3.744[95.10]$ | $0.051[1.30]$ | $24 W G Y 00008 P$ |

18 AWG 7/26 Tinned Copper

| 2 | $0.156[3.96]$ | $0.312[7.92]$ | $0.068[1.73]$ | O2WJYO00001P |
| :---: | :--- | :--- | :--- | :--- |
| 5 | $0.624[15.85]$ | $0.780[19.81]$ | $0.068[1.73]$ | 05WJYO0001OP |
| 10 | $1.404[35.66]$ | $1.560[39.62]$ | $0.068[1.73]$ | $10 W J Y 000010 P$ |
| 15 | $2.184[55.47]$ | $2.340[59.44]$ | $0.068[1.73]$ | $15 W J Y 000010 P$ |
| 20 | $2.964[75.29]$ | $3.120[79.25]$ | $0.068[1.73]$ | $20 W J Y 000010 P$ |
| 24 | $3.588[91.14]$ | $3.744[95.10]$ | $0.068[1.73]$ | $24 W J Y 000010 P$ |

Other Conductor Counts Available on Request.

## Contact MADISON CABLE (1-877-MADISON), a division of TE Connectivity, for engineering questions or for order placement of this cable.

Prepared IDC Ribbon Cable


In addition to bulk cable, the US Engineering Cable Assembly Group offers Prepared Cable for the . 100 [2.54] and .156 [3.96] centerline cables. This can be in the form of prenotched cable on reels or cut-to-length cable segments.

Prenotched 250 foot reels of cable can be produced with notches at varying increments or repeating all along the cable. The maximum width of these cables is 20 conductor for the 100 [2.54] centerline and 13 conductor for the 156 [3.96] centerline.

Prepared Cable is also available with a Strip and Retain feature allowing the
cable assembly to be soldered directly to the PC Board. This saves space and cost and reduces spare parts inventory. Strip and Retain on both ends is used in family board applications to maintain the electrical connection when the PC Board is separated into smaller boards after soldering. Widths are limited to 20 conductors for the .100 [2.54] centerline and 13 conductors for the .156 [3.96] centerline. However, multiple cables can be placed side-byside in a single connector. For other styles and configurations contact the product engineer or product manager.


## MTA Wire Termination Flowchart



## MTA Application Tooling Options

One-At-A-Time Termination Tooling Part Numbers
Note: Max. Insulation Outside Diameter Wire:


Notes:
. A repair a feed-slide sub-assembly and a locating pawl. Repair kits can be made available for other interchangeable heads. Consult TE.
2. Standard modular heads 58246-1 and 58247-1 ar recommended for low volume use.
3. Extended wear modular heads 58246-2 and 58247-2 are recommended for high volume use.
4. T-Handle Maintenance Tools are for maintenance (field) use only. They are not recommended for production.
5. Some Manual Hand Tool Assemblies are available: a. Order 58579-1, comprised of Head 58246-1 with Manual Hand Tool 58074-1. Manual Hand Tool 58074-1. b. Order 58580-1, compris of Head 58247-1 with Manual Hand Tool 58074-1 of Head 58638-1 with Manual Hand Tool 58074-
*Repair Kit 856600-1 **Repair Kit 856600-2

## MTA-50 Mass Termination Tooling Part Numbers

Manual Arbor Frame (with slide) Fixture, Discrete Wire, Feed-Thru
Part Number 1583518-1* Part Number 1583516-1 (28-26 AWG)
Upper Tooling Part Number 1583516-2 (30-28 AWG)
Part Number 1583514-1* Fixture, Ribbon Cable, Closed End or
Fixture, Discrete Wire, Closed End
Part Number 1583515-1 (28-26 AWG)
Feed-Thru
Part Number 1583517-1
Part Number 1583515-2 (30-28 AWG) *Required, plus appropriate Fixture(s).

## 

| MTA Connector Assembly |  | Interchangeable Head |  | Harness Board Holding Fixture |  |  | Interchangeable Head and Tape Feed Track |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Part Number | Used With |  |  |  |
|  |  | Part Number | Used With | Applicator | Tooling Assembly | Part Number | Used With |
| MTA-100 Connector | Closed End |  | - | - | 58242-1 | $\frac{-}{58575-1}$ | Manual Bench Tool 58024-1 and Tooling Assembly 58039-1 | $\begin{gathered} \text { 854175-1 \& } \\ 854200-1 \text { (Base) } \end{gathered}$ | 312522-1 |
|  |  | 58242-3 |  |  |  |  |  |  |
|  | Feed Thru | 58644-1 (Discrete Wire) <br> 58644-2 (Notched Cable) | $\begin{aligned} & 58074-1 \\ & \text { (Man Hd TI) } \end{aligned}$ | 58243-1 | - | - |  | - |  |
|  |  |  |  | 58243-3 | 58575-1 |  |  |  |  |
|  | Closed End (Posted) | - | - | 58635-1 | 58575-1 | - |  | - |  |
|  | Feed Thru (Posted) | - | - | 58636-1 | 58575-1 | - |  | - |  |
| MTA-156 Connector | Closed End | - | - | 58244-1 | - | Manual Bench Tool 58024-1 and Tooling Assembly 58040-1 | $\begin{gathered} 854176-1 \text { \& } \\ 854200-1 \text { (Base) } \end{gathered}$ | 312522-1 |  |
|  |  |  |  | 58244-3 | 58576-1 |  |  |  |  |
|  | Feed Thru | 58646-1 (Discrete Wire) ${ }^{\text {t }}$ <br> 58646-2 (Notched Cable) | $\begin{aligned} & 58074-1 \\ & (\text { Man Hd TI) } \end{aligned}$ | 58245-1 | - |  | - | - |  |
|  |  |  |  | 58245-3 | 58576-1 |  |  |  |  |
|  | Card Edge | - | - | 59848-1 | - |  | - | - |  |
|  |  |  |  | 59848-3 | 58576-1 |  | - |  |  |
|  | Closed End (Posted) | - | - | 58009-1 | - |  | - | - |  |
|  |  |  |  | 58009-2 | 58576-1 |  |  |  |  |
|  | Feed Thru (Posted) | - | - | 58010-2 | 58576-1 |  | - | - |  |
| MTA-156 <br> Quad | Closed End | - | - | 58244-1 | 28576-1 Manual Bench <br> Tool 58024-1 <br> and Tooling <br> Assy 58040-1 <br>   <br> Asen  |  | - | - |  |
|  |  |  |  | 58244-3 |  |  |  |  |  |  |
|  | Feed Thru | - | - | 58245-1 | - | 58024-1 and Tooling Assy 58040-1 | - | - |  |
|  |  |  |  | 58245-3 | 58576-1 |  |  |  |  |

2- through 12-positions." 2- through 8-positions.

## MTA Application Tooling Options (Continued)

## One-At-A-Time Termination Tooling (Typical Tooling Combinations)



Manual Hand Tool with Interchangeable Head


Air Hand Tool with Interchangeable Head

Air Hand Tool - Pistol Grip Pneumatic Handle Part No. 58075-1

- Light weight
- Operates at air pressure between 40 and 70 psi [2.76 and 4.83 bar]
- Head may be rotated for user convenience


Air Bench Mount Tool with Interchangeable Head and Foot Switch

## Air Bench Mount Tool Bench Mount Power Assembly Part No. 58338-1

- May be mounted with interchangeable head pointed up or down
- Operated by a foot switch
- Operates at air pressure between 40 and 70 psi [2.76 and 4.83 bar ]


Electric Bench Machine with Interchangeable Head

Electric Bench Machine IDC Power Unit Part No. 931800-1

- All electric: 120 VAC, $60 \mathrm{~Hz}, 2 \mathrm{~A}$
- Compact, portable and quiet
- Operated by a foot switch


Air Bench Mount Tool with Interchangeable Head and Loose-Piece Feed Track


Electric Bench Machine with Interchangeable Head and Tape Feed Track


AMP-O-LECTRIC Bench Machine with Special Applicator

Interchangeable Heads and Applicators (Refer to page 58 for part numbers.)

Interchangeable Head

- Terminates one unstripped wire per cycle
- Aligns and holds the connector in place for each termination
- Automatically advances the connector after each terminatior


Interchangeable Head and Loose-Piece Feed Track

- No special setup required
- Connectors are easily
loaded into feed track
- Connectors are fed using a simple spring-loaded pusher

Interchangeable Head and Tape Feed Track

- No special setup required
- Tape-mounted connectors are transferred from product reel to feed track by simply pulling on the free end of the carrier tape
- Connectors are fed using a simple spring-loaded pusher

Special Applicator

- Connectors are easily hand loaded into feed track
- Automatically advances the connector after each termination
- Cannot be cycled until the connector is properly positioned

T-Handle Maintenance Tool

## MTA Application Tooling Options (Continued)

## Mass Termination Tooling

(Typical Tooling Combinations)


Manual Bench Tool with Applicator and Holding Fixture

## Power Units

Manual Bench Tool Arbor Frame Assembly Part No. 58024-1

- Applicator and holding fixture can be oriented for operator convenience for closed-end or feed-thru terminations
- Ram height (insertion depth) is easily adjusted
- May be bench mounted


Air Harness Tool with Applicator


Air Bench Machine


2700 lb Air Bench Machine with Ribbon Cable Notcher Assembly

2700 lb Air Bench Machine Part No. 312522-1

- Operated by a foot switch
- Capable of exerting $2,700 \mathrm{lb}[12,000 \mathrm{~N}]$ of force at minimum 80 psi [5.52 bar] air pressure
- May be bench mounted

Air Bench Machine Pneumatic Unit Part No. 91112-2

- Operated by a foot switch
- Operates at air pressure between 80 and 90 psi [5.52 and 6.21 bar]
- Not recommended for notching cable with more than 14 conductors


## Applicators and Notcher Assemblies



Manual Bench Tool with Applicator and Tape Feed Track

## Applicator and Holding Fixture

- Wires are laced into plastic combs for mass termination
- Trims excess wire for closed-end terminations
- Holding fixture may be mounted to a harness board


## Applicator and Tape Feed

 Track- Tape-mounted connectors are transferred from product reel to feed track by simply pulling on the free end of the carrier tape
- Connectors are fed using a simple spring-loaded pusher
- Feed stop easily adjusted for different connector sizes


## Ribbon Cable Notcher Assembly

- Notch cable with up to 28 conductors for 100 centerline, and 24 conductors for .156 centerline
- Pressure plate holds cable in position during notching
- Scrap conveniently removed through a chute with a blast of air from a


Ribbon Cable Notcher Assembly built-in air valve
$\left.\begin{array}{cccc}\hline \text { Part Number } & \begin{array}{c}\text { Wire Size } \\ \text { AWG }\end{array} & \text { Centerline } & \text { Used With } \\ \hline 854449-2 & 26-28 & \mathbf{. 1 0 0} & \text { Manual Bench Tool } \\ \text { 58024-1 }\end{array}\right]$

Use Adapter 854468-1 when putting Notcher in the AMP-O-LECTRIC Machine. Use Adapter 854468-2 when putting Notcher in the 2700 Ib Air Bench Machine.

## MTA Application Tooling Options (Continued)

## Technical Documents

The following is a list of technical documents covering the installation, operation, adjustment, maintenance and repair of MTA application tooling.

Instruction Sheets (IS) provide instructions for assembling or applying the product. They are intended for the Manufacturing Assembler or Operator.

Customer Manuals (CM) provide complete, detailed instructions on the installation, operation, adjustment, maintenance and repair of complex tools and application machines.
Applicator Instructions (AI) are similar to instruction sheets (which cover products and tools), and provide instructions for installation, adjustment and maintenance of applicators used in automatic and semiautomatic machines.

## Hand Tools, Power Units \& Accessories

| anual Arbor Frame (MTA-50) | 1583518-1 | IS408-8812 | 2700lb Air Bench Machine | 312522-1 | CM409-5843 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Upper Tooling (MTA-50) | 1583514-1 | IS408-8812 | Terminator Assembly, "G" Term | 354500-1 | CM409-5842 |
| Manual Arbor Frame Assembly | 58024-1 | IS408-6923 | AMP-O-LECTRIC Bench Machine | 1-471273-3 | CM409-5128 |
| Ribbon Cable Applicator, .100 | 58039-1 | IS408-6685 | Conversion Kit | 690675-2 | IS408-8022 |
| Ribbon Cable Applicator, 156 | 58040-1 | IS408-6701 | Base Assembly | 853542-1 | IS408-9636 |
| Manual Hand Tool | 58074-1 | IS408-6790 | Base | 854200-1 | IS408-9650 |
| Air Bench Mount Tool | 58338-1 | IS408-9393 | Adapter (AMP-O-LECTRIC) | 854468-1 | IS408-9687 |
| Air Hand Tool (MTA-100) | 58575-1 | IS408-4260 | Adapter (2700lb Machine) | 854468-2 | IS408-9687 |
| Air Harness Tool (MTA-156) | 58576-1 | IS408-4260 | Repair Kit | 856600-1 | IS408-9745 |
| T-Handle Maintenance Tool (MTA-100) | 59803-1 | IS408-7907 | Repair Kit | 856600-2 | IS408-9745 |
| T-Handle Maintenance Tool (MTA-156) | 59804-1 | IS408-7907 | Electric Bench Mount Tool | 931800-1 | CM409-5746 |
| Air Arbor Frame Assembly | 91112-2 | IS408-7763 |  |  |  |
| One-At-A-Time Termination Tooling Interchangeable Heads$\qquad$ MTA-50 |  |  | Interchangeable Head \& Loose Piece Feed Track <br> MTA-100 |  |  |
|  |  |  |  |  |  |
|  |  |  | 933567-1 IS 408-9435 | 933568-1 | IS 408-9466 |
| 1583503-1 IS408-8801 | $\begin{aligned} & 58247-1 \\ & 58247-2 \\ & 58247-3 \\ & 58443-1 \\ & 58061-1 \\ & 58082-1 \\ & 5892-1 \end{aligned}$ | IS408-6930 | Interchangeable Heads \& Tape Feed Track |  |  |
| MTA-100 |  | IS408-4146IS408-9607 | MTA-100 |  |  |
| 58246-1 IS408-6929 |  |  | 853546-1 IS 408-9636 | 853547-1 | IS 408-9637 |
| 58246-2 IS408-9379 |  | IS408-6794 | Special Applicators |  |  |
| $58246-3$ IS408-4147 |  | IS408-6795 | MTA-100 | MTA |  |
| $\begin{array}{ll}58442-1 & \text { IS408-9603 } \\ 58638-1 & \text { IS }\end{array}$ |  | IS408-9450 | 466728-1 Al 408-8054 | $\begin{aligned} & 466727-1 \\ & 567020-1 \end{aligned}$ | $\begin{aligned} & \text { Al 408-8054 } \\ & \text { Al 408-8069 } \end{aligned}$ |

Mass Termination Tooling

| MTA-50 |  |
| :--- | ---: |
| 1583515-1 | IS408-8812 |
| 1583515-2 | IS408-8812 |
| 1583516-1 | IS4O8-8812 |
| $1583516-2$ | IS408-8812 |
| 1583517-1 | IS4O8-8812 |

## Typical Application Rates



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| 25WEY00007P | 61 | 640602 | 32 |
| 25WEY00008P | 61 | 640604 | 32 |
| 25WFY00006P | 61 | 640605 | 32 |
| 25WFY00007P | 61 | 640606 | 32 |
| 25WGY00006P | 61 | 640607 | 32 |
| 28WEY00007P | 61 | 640608 | 32 |
| 28WEY00008P | 61 | 640620 | 8 |
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