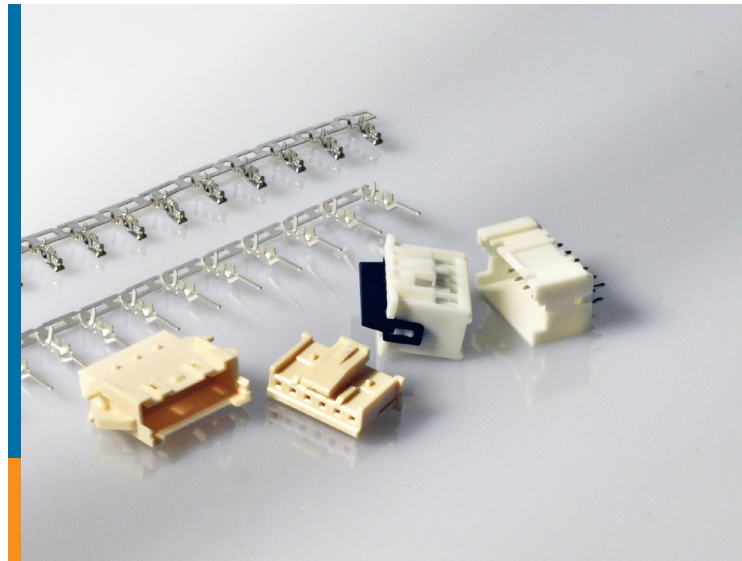


# ECONOMY POWER 2.5 CONNECTOR

Single or Dual Row  
Wire-to-wire and wire-to-board types



The Economy Power 2.5 (EP 2.5) connector is a new type of single row or dual row crimp connector system. The product line is comprised of new plug housings, contacts and headers. Based on a 2.5mm (0.098") centerline pitch, it is a very compact solution. The newly designed contact retainers provide Terminal Position Assurance (TPA). When inserted, the optional TPA retainers help prevent the contacts from backing out of the housings in applications with random vibration, and they help ensure full contact insertion within the housing. With board space increasingly at a premium, the EP 2.5 connector series offers an ideal interconnection solution for densely packed printed circuit boards.

EP 2.5 connector halves are available from 2 to 40 positions for discrete wires from 0.13 to 0.56mm<sup>2</sup> (AWG 26 to 20).

Besides single row solutions, EP 2.5 connectors offer 8 to 40 position dual row wire-to-board and wire-to-wire models. The wire-to-board dual row connector system offers vertical and right angle header options. The dual row wire-to-wire connector system offers both free-hanging and panel-mount options.

EP 2.5 housings and contacts were designed to help workers on the shop floor. The low insertion force terminals have an asymmetrical shape. This means they can only be loaded into the housing cavity one way – the right way.

EP 2.5 connectors provide a comprehensive connectivity solution with vertical and right angle headers, optional TPA retainers, wire-to-wire and wire-to-board options and a range of resin materials that include types meeting Glow Wire Test and UL 94 V-0 standards.

Additionally, EP 2.5 connectors are intermateable with similar products available in the market, facilitating simple retrofitting.

# ECONOMY POWER 2.5

## Connector Series

### KEY FEATURES

- Housing locking latch
- Polarization tabs
- Asymmetrical terminals can only be loaded into housing one way
- Low insertion force terminals
- Anti-fretting contact lubricant
- Offering includes vertical and right angle headers in single and dual row configurations
- Includes products compliant with Glow Wire test required by IEC/EN 60335-1 5th edition: Household and Similar Appliances-Safety and UL 94 V-0

### APPLICATIONS

- Household appliances
- HVAC
- Industrial machinery (control boards)
- Products can be used for global applications where compliance to IEC 60335-1 and UL 94 V-0 is required

### SPECIFICATIONS

- Product specification: 108-2418
- Application specification: 114-13315



**1969442-6**

6 position receptacle housing with latch and tabs

### ELECTRICAL

- Voltage rating: 250VAC
- Current rating: 4.5A max. (single row)

### MECHANICAL

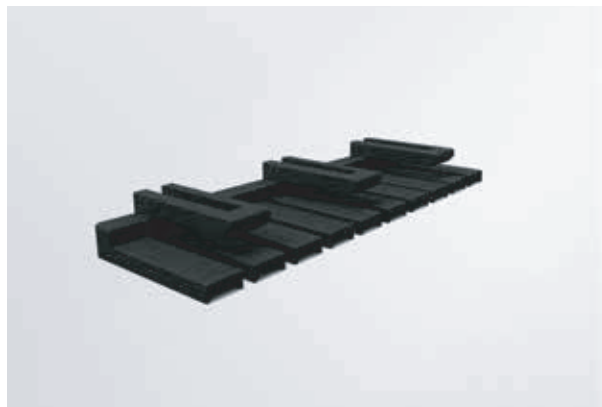
- Positions: 2 to 15, single row, wire-to-wire  
2 to 20, single row, wire-to-board  
8 to 40, dual row, all types
- Wire size: 0.13 to 0.56mm<sup>2</sup> (26 to 20 AWG).
- Centerline pitch: 2.5mm (0.098")
- Operating temperature: -55 to 105°C
- Selectively loaded headers available upon request

### MATERIALS

- Housings: UL 94 V-0 rated Nylon
- Contacts: Copper alloy
- Colored housings available upon request
- Glow Wire material and UL 94 V-0 option available

### STANDARDS

- UL Recognized (U.S. and Canada) E28476
- TUV approval is being sought





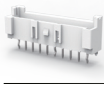
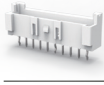



**1-1969443-0**

10 position TPA retainer

# ECONOMY POWER 2.5 CONNECTOR

## Single Row

| Product Image   | Type / Style      | Flammability                      | Part Number |    |    |    |    |    |    |    |    |     |      |      |      |      |      |      |      |      |      |      |
|---|-------------------|-----------------------------------|-------------|----|----|----|----|----|----|----|----|-----|------|------|------|------|------|------|------|------|------|------|
| <b>Single Row Plug Housing</b>  |                   |                                   |             |    |    |    |    |    |    |    |    |     |      |      |      |      |      |      |      |      |      |      |
|   |                   |                                   | Position    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
|    | For all types     | UL - 94 V0                        | x-1969442-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
|   |                   | GWT acc. IEC 60335-1 and UL 94 V0 | x-1744417-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
| <b>Single Row Receptacle Housing</b>  |                   |                                   |             |    |    |    |    |    |    |    |    |     |      |      |      |      |      |      |      |      |      |      |
|   |                   |                                   | Position    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11   | 12   | 13   | 14   | 15   |      |      |      |      |      |
|    | Free Hanging      | UL - 94 V0                        | x-1969588-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 |      |      |      |      |      |
|   |                   | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969589-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 |      |      |      |      |      |
|    | Panel Mount       | UL - 94 V0                        | x-1969590-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 |      |      |      |      |      |
|   |                   | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969591-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 |      |      |      |      |      |
| <b>TPA</b>  |                   |                                   |             |    |    |    |    |    |    |    |    |     |      |      |      |      |      |      |      |      |      |      |
|   |                   |                                   | Position    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
|    | Locking plate     | UL - 94 V0                        | x-1969443-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
| <b>Shrouded Header</b>  |                   |                                   |             |    |    |    |    |    |    |    |    |     |      |      |      |      |      |      |      |      |      |      |
|   |                   |                                   | Position    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10  | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
|  | Vertical w Boss   | UL - 94 V0                        | x-2132230-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
|   |                   | GWT acc. IEC 60335-1 and UL 94 V0 | x-1744418-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
|  | Vertical w/o Boss | UL - 94 V0                        | x-2132415-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
|   |                   | GWT acc. IEC 60335-1 and UL 94 V0 | x-1744439-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
|  | Right Angle       | UL - 94 V0                        | x-1744426-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |
|   |                   | GWT acc. IEC 60335-1 and UL 94 V0 | x-1744446-y | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | 1-0 | 1--1 | 1--2 | 1--3 | 1--4 | 1--5 | 1--6 | 1--7 | 1--8 | 1--9 | 2--0 |

\* Colored housings are available upon request. Please contact TE sales representatives for more information.

### Part Number Ordering : Example for X-1969588-Y Housing\*

#### -2 thru -9

Substitute the dash number listed for "Y", therefore a -2 signifies PN 1969588-2



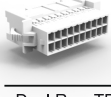



#### 1--0 thru 1--2

Substitute first number for "X" and second number listed for "Y", therefore a 1--2 signifies PN 1-1969588-2

\* Follow same numbering scheme throughout for other part numbers listed

# ECONOMY POWER 2.5 CONNECTOR

## Dual Row

| Product Image   | Type / Style  | Flammability                      | Part Number |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|---------------|-----------------------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>Dual Row Plug Housing</b>  |               |                                   |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | For all types |                                   | Position    | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 26  | 28  | 30  | 32  | 34  | 36  | 38  | 40  |
|   |               | UL - 94 V0                        | x-1969540-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
|   |               | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969567-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
| <b>Dual Row Receptacle Housing</b>  |               |                                   |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | Free Hanging  |                                   | Position    | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 26  | 28  | 30  | 32  | 34  | 36  | 38  | 40  |
|   |               | UL - 94 V0                        | x-1969592-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
|   |               | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969593-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
|    | Panel Mount   |                                   | Position    | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 26  | 28  | 30  | 32  | 34  | 36  | 38  | 40  |
|   |               | UL - 94 V0                        | x-1969594-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
|   |               | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969595-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
| <b>Dual Row TPA Device</b>  |               |                                   |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|    | Locking plate | UL - 94 V0                        | x-1969541-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
| <b>Dual Row Vertical Header</b>   |               |                                   |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | With Boss     |                                   | Position    | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 26  | 28  | 30  | 32  | 34  | 36  | 38  | 40  |
|   |               | UL - 94 V0                        | x-1969543-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
|   |               | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969570-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
|   | Without Boss  |                                   | Position    | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 26  | 28  | 30  | 32  | 34  | 36  | 38  | 40  |
| UL - 94 V0  |               | x-1969582-y                       | -8          | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |     |
|   |               | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969584-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
| <b>Dual Row Right Angle Header</b>  |               |                                   |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Right Angle   |                                   | Position    | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 22  | 24  | 26  | 28  | 30  | 32  | 34  | 36  | 38  | 40  |
|   |               | UL - 94 V0                        | x-1969572-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |
|   |               | GWT acc. IEC 60335-1 and UL 94 V0 | x-1969574-y | -8  | 1-0 | 1-2 | 1-4 | 1-6 | 1-8 | 2-0 | 2-2 | 2-4 | 2-6 | 2-8 | 3-0 | 3-2 | 3-4 | 3-6 | 3-8 | 4-0 |

\* Colored housings are available upon request. Please contact TE sales representatives for more information.

### Part Number Ordering : Example for X-1969540-Y Housing\*

#### -2 thru -9


Substitute the dash number listed for "Y", therefore a -2 signifies PN 1969540-2

#### 1- -0 thru 1- -2


Substitute first number for "X" and second number listed for "Y", therefore a 1- -2 signifies PN 1-1969540-2

\* Follow same numbering scheme throughout for other part numbers listed

Terminals

|   |  |             |  |           |
|---|--|-------------|--|-----------|
|  | Socket                                   | Tin Plating | 22-26 AWG (0.13 to 0.36mm <sup>2</sup> ) | 2110989-1 |
|   |  |             | 20-24 AWG (0.20 to 0.56mm <sup>2</sup> ) | 1744423-1 |
| Pin, Lanceless  | 22-26 AWG (0.13 to 0.36mm <sup>2</sup> ) |             | 2238007-1                                |           |
|   | 20-24 AWG (0.20 to 0.56mm <sup>2</sup> ) |             | 2238008-1                                |           |

New Terminal In Development *Preliminary data (subject to change)*

|   |                            |             |  |           |
|---|----------------------------|-------------|--|-----------|
|  | Low Insertion Force Socket | Tin Plating | 22-26 AWG (0.13 to 0.36mm <sup>2</sup> ) | 2232905-1 |
|---|----------------------------|-------------|--|-----------|

New socket is expected to reduce insertion force about 38%, from approx. 4.1N to approx. 2.51N. Another version for other wire sizes is also in development.

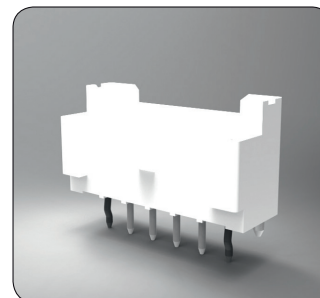
APPLICATION TOOLING

Both the tab and receptacle contact can be applied to wire using the Ocean applicator for automatic and semi-automatic applications. For low volume production and prototype work, a hand-tool will be available to crimp the contacts to wire.

| Part Number | Description                                  |
|-------------|--|
| 1530232-[ ] | HDI Quick Change Miniature Applicator        |
| 1725950-[ ] | AMP 3/K-40 Press                             |
| 1725900-[ ] | AMP 5/K Press                                |
| 1530232-3   | AMP-O-ELECTRIC Model "G" Termination Machine |
| 1530232-2   | AMP-O-ELECTRIC Model "K" Termination Machine |
| 1530232-1   | Lead Making Machine                          |
| 354500-[ ]  | AMP-O-ELECTRIC Model "G" Terminating Machine |
| 528324-[ ]  | Komax Gamma 333 PC                           |

APPLICATION TOOLING PN-HAND TOOL

|                       |
|-----------------------|
| 2217074-1 (22-26 AWG) |
|-----------------------|



**2132230-6**  
6 position vertical shrouded header with boss



**APPLICATION TOOLING**  
Available hand tool



**APPLICATION TOOLING**  
OCEAN applicator

## For More Information

Visit [www.te.com](http://www.te.com) and enter search term “EP”

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