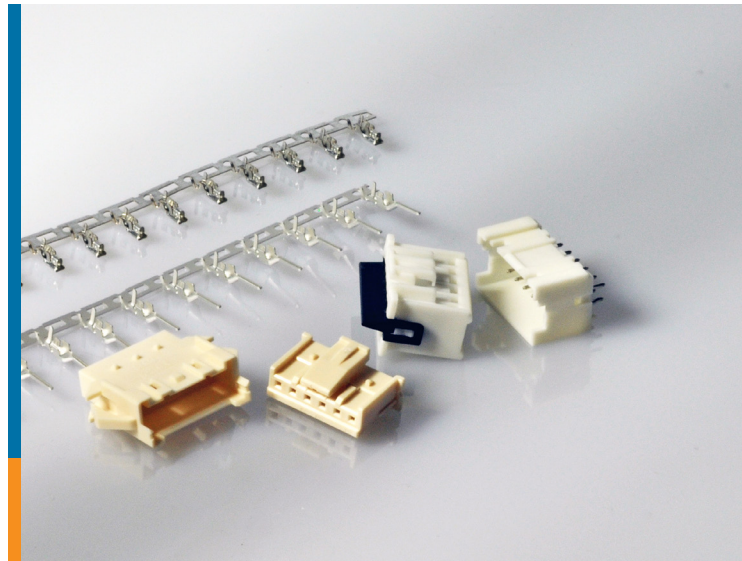


# ECONOMY POWER 2.5 CONNECTOR

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



The Economy Power 2.5 (EP 2.5) connector is a single row or dual row crimp connector system. Based on a 2.5mm (0.098") centerline pitch, it is a very compact solution. The product line is comprised of housings, contacts, headers and optional contact retainers. The newly designed contact retainers provide Terminal Position Assurance (TPA). When inserted, these optional TPA retainers help ensure full contact insertion within the housing, and they help prevent the contacts from backing out of the housings in applications with random vibration. 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 terminals have an asymmetrical shape. This means they can only be loaded into the housing cavity one way - the right way. New low insertion force (LIF) socket contacts are now available as well as standard insertion force contacts. The LIF socket contacts require a maximum of 3.5 N insertion force, while the standard insertion force contacts require a maximum of 8.9 N insertion force. The LIF contacts are of particular interest when EP 2.5 connectors with a high number of positions are being used.

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
- Standard or low insertion force (LIF) 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

### 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

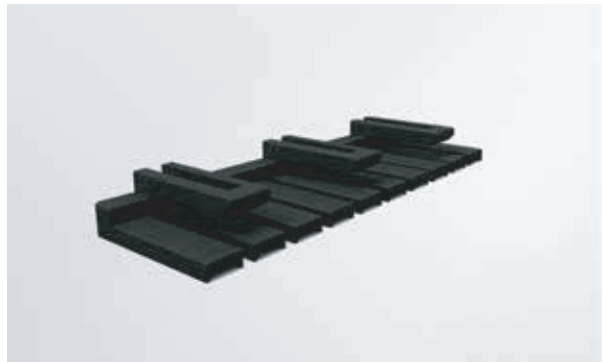
### STANDARDS

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



**1969442-6**








6 position receptacle housing with latch and tabs



**1-1969443-0**

10 position TPA retainer

Single Row

Product Image	Type / Style	Flammability	Part Number																			
Single Row Plug Housing			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
Single Row Receptacle Housing			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					
TPA			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
Shrouded Header			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.



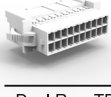



**Part Number Ordering : Example for X-1969588-Y Housing\***

**-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

## 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

Standard Insertion Force Terminals

	Socket (Receptacle)	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 Low Insertion Force (LIF) Terminals

	LIF Socket (Receptacle)	Tin Plating	22-26 AWG (0.13 to 0.36mm <sup>2</sup> )	2232905-1
			20-24 AWG (0.20 to 0.56mm <sup>2</sup> )	2232983-1

New LIF sockets reduce insertion force about 60% from that of standard sockets. Maximum insertion force is 3.5 N for the new LIF sockets, versus maximum insertion force of 8.9 N for standard sockets.

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.

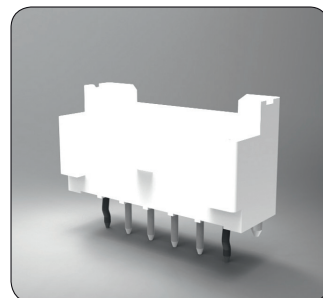
Part Number	Description
1530232-[ ]	HDI Quick Change Miniature Applicator
1725950-[ ]	AMP 3/K-40 Press
1725900-[ ]	AMP 5/K Press
1530232-3	AMP-O-ELECTRIC Model "G" Termination Machine
1530232-2	AMP-O-ELECTRIC Model "K" Termination Machine
1530232-1	Lead Making Machine
354500-[ ]	AMP-O-ELECTRIC Model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

APPLICATION TOOLING PN-HAND TOOL

2217074-1 (22-26 AWG)

APPLICATION TOOLING PN - EP 2.5 PIN EXTRACTION TOOL

2161958-1



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 2.5”

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