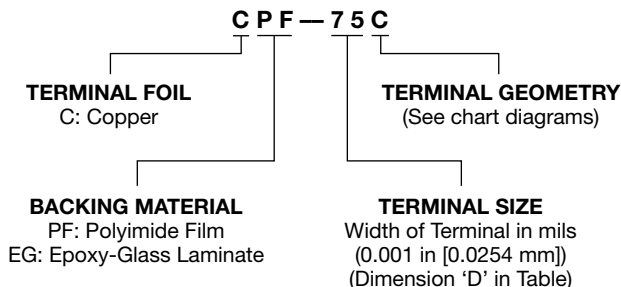


## Terminal Details and Descriptions

For many types of strain gages (i.e., Micro-Measurements EA-Series), instrument leadwires generally should not be attached directly to the solder tabs of the gage. Instead, the normal practice is to install bondable terminals adjacent to the gage and solder the instrument leadwires to these. Small, flexible jumper wires, curved to form strain relief loops, are then connected from the terminals to the gage solder tabs. The accompanying drawings show typical strain gage terminal installations (see also Application Note TT-603. "The Proper Use of Bondable Terminals in Strain Gage Applications").

### TERMINAL CONSTRUCTION

Micro-Measurements bondable terminals are specially designed for use in strain gage circuits. They are produced from 0.0014-in [0.036-mm] thick, copper foil, laminated on either of two types of backing material. Both backings are readily bondable with strain gage adhesives. Terminals are offered in four different geometries, and in a range of sizes to suit varying gage installation needs.



### BACKING MATERIALS

#### TYPE PF POLYIMIDE FILM:

0.003 in [0.08 mm] thick. This is the preferred general-purpose backing material. It is more flexible and conformable than the Type EG, although not as strong. Type PF backing combines high-temperature capability, resistance to soldering damage and good electrical properties. It is suitable for long-term use at +450° to +500°F [+230° to +260°C], limited primarily by gradual oxidation of the copper foil interface. The relatively high thermal expansion coefficient of unfilled polyimide can cause loss of bond at temperatures below -100°F [-75°C].

#### TYPE EG EPOXY-GLASS LAMINATE:

0.005 in [0.13 mm] thick. This special laminate provides a strong but flexible backing for terminals. It is suitable for long-term use at +300°F [+150°C], and is recommended for cryogenic applications at temperatures down to -452°F [-269°C]. The radius of curvature of the mounting surface should generally be greater than 1/8 in [3 mm].

| Terminal Detail and Description   | Terminal Pattern<br>(Actual Size) | Dimensions<br>"A" dimensions nominal |                 |                 |                 | Order<br>Number      | Package<br>Strips of<br>4 Pairs |
|---|-----------------------------------|--------------------------------------|-----------------|-----------------|-----------------|----------------------|---------------------------------|
|   |                                   | A                                    | B               | C               | D               |                      |                                 |
| <p><b>Suffix C:</b> General-purpose. Widely used between gage jumper wires and main leadwire system. Suitable for many bridge intraconnection applications.</p> |                                   | 0.11<br>[2.7]                        | 0.065<br>[1.65] | 0.025<br>[0.64] | 0.025<br>[0.64] | CEG-25C<br>CPF-25C   | 70                              |
|   |                                   | 0.14<br>[3.4]                        | 0.095<br>[2.41] | 0.030<br>[0.76] | 0.038<br>[0.97] | CEG-38C<br>CPF-38C   | 60                              |
|   |                                   | 0.18<br>[4.5]                        | 0.125<br>[3.18] | 0.036<br>[0.91] | 0.050<br>[1.27] | CEG-50C<br>CPF-50C   | 50                              |
|   |                                   | 0.25<br>[6.4]                        | 0.190<br>[4.83] | 0.040<br>[1.02] | 0.075<br>[1.91] | CEG-75C<br>CPF-75C   | 30                              |
|   |                                   | 0.33<br>[8.4]                        | 0.250<br>[6.35] | 0.070<br>[1.78] | 0.100<br>[2.54] | CEG-100C<br>CPF-100C | 20                              |
|   |                                   | 0.48<br>[12.1]                       | 0.375<br>[9.53] | 0.070<br>[1.78] | 0.150<br>[3.81] | CEG-150C<br>CPF-150C | 10                              |

## Terminal Details and Descriptions

| Terminal Detail and Description  | Terminal Pattern<br>(Actual Size) | Dimensions<br>"A" dimensions nominal |                 |                 |                 | Order<br>Number      | Package<br>Strips of<br>4 Pairs |
|--|-----------------------------------|--------------------------------------|-----------------|-----------------|-----------------|----------------------|---------------------------------|
|  |                                   | A                                    | B               | C               | D               |                      |                                 |
| <p><b>Suffix D:</b> Designed for installations with 2-wire jumper arrangement to gage and a 3-wire main lead system.</p> |                                   | 0.18<br>[4.5]                        | 0.125<br>[3.18] | 0.036<br>[0.91] | 0.050<br>[1.27] | CEG-50D<br>CPF-50D   | 30                              |
|  |                                   | 0.21<br>[5.3]                        | 0.150<br>[3.81] | 0.038<br>[0.97] | 0.060<br>[1.52] | CEG-60D<br>CPF-60D   | 25                              |
|  |                                   | 0.25<br>[6.4]                        | 0.190<br>[4.83] | 0.040<br>[1.02] | 0.075<br>[1.91] | CEG-75D<br>CPF-75D   | 20                              |
|  |                                   | 0.33<br>[8.4]                        | 0.250<br>[6.35] | 0.050<br>[1.27] | 0.100<br>[2.54] | CEG-100D<br>CPF-100D | 15                              |

| Terminal Detail and Description   | Terminal Pattern<br>(Actual Size)  | Dimensions<br>"A" dimensions nominal |                 |                 |                 | Order<br>Number    | Package<br>Strips of<br>4 Pairs |
|---|--|--------------------------------------|-----------------|-----------------|-----------------|--------------------|---------------------------------|
|   |  | A                                    | B               | C               | D               |                    |                                 |
| <p><b>Suffix L:</b> Primarily used to bring main leadwires out at right angles to terminal strip.</p> |  | 0.21<br>[5.3]                        | 0.150<br>[3.81] | 0.040<br>[1.02] | 0.060<br>[1.52] | CEG-60L<br>CPF-60L | 25                              |
|   |  | 0.25<br>[6.4]                        | 0.190<br>[4.83] | 0.050<br>[1.27] | 0.075<br>[1.91] | CEG-75L<br>CPF-75L | 20                              |
|   | <b>Terminal Assortment:</b> Contains 2 strips of C, D, and L patterns, except 1 strip of the 150C and 100D designs |                                      |                 |                 |                 | CEG-AST<br>CPF-AST | 22                              |

| Terminal Detail and Description   | Terminal Pattern<br>(Actual Size) | Dimensions<br>"A" dimensions nominal |                 |                 |                 |                 | Order<br>Number | Package<br>Pairs |
|---|-----------------------------------|--------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
|   |                                   | A                                    | B               | C               | D               | E               |                 |                  |
| <p><b>Suffix S:</b> Primarily used where soldering and desoldering may be encountered. Hole in center produces thermal isolation at each end of terminal. Not recommended for high cyclic endurance. Available only in epoxy-glass backing.</p> |                                   | 0.13<br>[3.2]                        | 0.063<br>[1.60] | 0.021<br>[0.53] | 0.021<br>[0.53] | 0.042<br>[1.07] | CEG-21S         | 200              |
|   |                                   | 0.21<br>[5.2]                        | 0.125<br>[3.18] | 0.042<br>[1.07] | 0.042<br>[1.07] | 0.084<br>[2.13] | CEG-42S         | 100              |
|   |                                   | 0.29<br>[7.4]                        | 0.190<br>[4.83] | 0.063<br>[1.60] | 0.063<br>[1.60] | 0.126<br>[3.20] | CEG-63S         | 100              |
|   |                                   | 0.37<br>[9.4]                        | 0.250<br>[6.35] | 0.083<br>[2.11] | 0.083<br>[2.11] | 0.166<br>[4.22] | CEG-83S         | 60               |
|   |                                   | 0.54<br>[13.6]                       | 0.375<br>[9.53] | 0.125<br>[3.18] | 0.125<br>[3.18] | 0.250<br>[6.35] | CEG-125S        | 30               |

## Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay Precision Group"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify Vishay Precision Group's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

Vishay Precision Group makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, Vishay Precision Group disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on Vishay Precision Group's knowledge of typical requirements that are often placed on Vishay Precision Group products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of Vishay Precision Group.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay Precision Group products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay Precision Group for any damages arising or resulting from such use or sale. Please contact authorized Vishay Precision Group personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.