

Right-Angle Posted Connectors



| Connector Density | Туре | Style and Shell Finish | No. of Contact Positions | Footprint | Mating Hardware | Board Mounting | Contact Plating (Mating Area/ Solder Tails) | Post Length | |
|----------------------|--------------------|--|--------------------------------|---|--|---|---|-----------------------|--|
| HD-22 | Plug and | Front Metal-Shell, | 15 26 44 | .350 | Threaded Inserts | Boardlocks | Duplex (0.000030 [0.00076] Gold/Tin) | .125 | |
| | Receptacle | Tin Plated (Pg. 52) | 62 78 | [8.89] | Female Screwlocks | | Duplex (Gold Flash/Tin) | [3.18] | |
| | | Full Metal-Shell With and Without | 9 15 25 | .454 [11.53] | Standard Screws | .120 [3.05] | Duplex (.000030 [0.00076] Gold/Tin) | .125 [3.18] | |
| | | Grounding Indents, Tin Plated (Pgs. 71, 139, 155) | 37 50 | .545 [13.84] | Female Screwlocks | Dia. Holes | Duplex (Gold Flash/Tin) | .220 [5.59] | |
| | Plugs | Front Metal-Shell With Grounding Indents, Tin Plated (Pgs. 55-58, | 9 15 25 37 | .318 [8.08] .478 [12.14] .590 | .120 [3.05] Dia. Holes Threaded Inserts | .125 [3.18] Dia. Holes Boardlocks | Duplex (.000030 [0.00076] Gold/Tin) Duplex | .125 [3.18] | |
| HD-20 | and Receptacles | 60-63, 65-67, 131, 134, 138, 143, 150) | | [14.99] | Female Screwlocks | | (Gold Flash/Tin) | | |
| | | | | | .125 [3.18] Dia. Holes | | Duplex | | |
| | | All-Plastic (Pgs. 68-70, 132, | 9 15 | .318 [8.08] | .120 [3.05] Dia. Holes | .125 [3.18] Dia. Holes | (.000030 [0.00076] Gold/Tin) | .125 | |
| | | 133, 135, 136) | 25 37 | .590 [14.99] | Threaded Inserts | . 120 [3.05] Dia. Elliptical Holes | Duplex (Gold Flash/Tin) | [3.18] | |
| | | | | | Female Screwlocks | Boardlocks | . , | | |



Right-Angle Posted Connectors (Continued)

Product Facts:

- Flame retardant thermoplastic housing material, UL 94V-0 rated
- HD-20 right-angle connectors are available in 9, 15, 25 and 37 positions (Shell Sizes 1 thru 4) in both plug and receptacle versions; some versions available in 50 position, (Shell Size 5)
- HD-20 stacked connectors are available in 9/9, 15/15, 25/25, and 37/37 positions (Shell Sizes 1 thru 4) in receptacle over receptacle, plug over plug and combination versions
- HD-22 right-angle receptacle connectors are available in 15, 26, 44, 62 and 78 positions (Shell Sizes 1 thru 5)
- Low cost front metal-shell design compatible with full metal-shell connectors
- Integral boardlock versions secure posted connectors to pc boards prior to soldering

| HD-20 and HD-22 connector |
|---------------------------|
| contacts are available in |
| plating types to satisfy |
| different applications |

- HD-22 right-angle posted connectors are designed for high temperature applications
- Integral fixed 4-40 threaded inserts and screwlocks are available in both HD-20 and HD-22 connectors
- Connectors are intermateable with any size 20 or 22 subminiature D connectors dimensionally complying with MIL-C-24308

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| AMPLIMITE 2000 Subminiature D Connectors | |
| HD-20 and HD-22 Slimline Connectors | |
| HD-22 Right-Angle Posted Subminiature D Connectors | 52, 53 |
| HD-20 Front Metal-Shell Right-Angle Posted Connectors | |
| 318 Mount | 54-5 |
| HD-20 Full Metal-Shell Right-Angle Posted Connectors | F0 F |
| 454 Mount | 58, 59 |
| HD-20 Front Metal-Shell Right-Angle Posted Connectors | 40 4 |
| 478 Mount | 60, 6 |
| 545 Mount | 62 6 |
| HD-20 Front Metal-Shell Right-Angle Posted Connectors | 02, 00 |
| 590 Mount | 6465 |
| HD-20 All-Plastic Right-Angle Posted Connectors | |
| 318 Mount | 66-68 |
| HD-20 All-Plastic Right-Angle Posted Connectors | |
| 590 Mount | |
| European Standard Footprint | 72 |
| Eurostyle Footprint | |
| Press Fit Termination, Right-Angle Mounting | 74 |

Subminiature D Connectors for Cable Mounting

Right-Angle Stacked Connectors (Centerline-to-centerline height .750 [19.05])

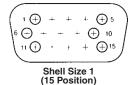
| | | , | | • | -, | | | |
|----------------------|----------------------------------|--|--------------------------------|-----------------|------------------------------------|----------------------------------|---|----------------|
| Connector Density | Туре | Style and Shell Finish | No. of Contact Positions | Footprint | Mating Hardware | Board Mounting | Contact Plating (Mating Area/ Solder Tails) | Post Length |
| | Receptacle over Receptacle | | | | | | | |
| HD-20 | Plug over Plug | Front Metal-Shell, | 9/9 15/15 25/25 | See Customer | Threaded Inserts | .120 [3.05] Dia. Holes | Duplex (.000030 [0.00076] Gold/Tin) (.000010 [0.00025] | .125 |
| 110-20 | Receptacle over Plug | Tin Plated 25/25 Customer 37/37 (Pgs. 144-149, 151) (Std.) | Female Screwlocks | Boardlocks | Gold/Tin) Duplex (Gold Flash/Tin) | [3.18] | | |
| | Plug over Receptacle | | | | | | . , | |

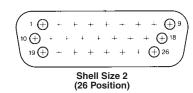


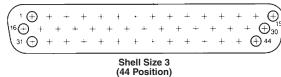
HD-22 and HD-20 Commercial Connectors (AMPLIMITE)

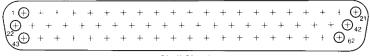
Contact Arrangements

HD-22 Inserts

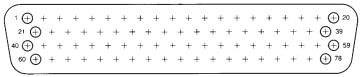






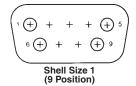


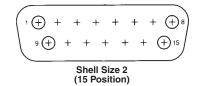
Shell Size 4 (62 Position)



Shell Size 5 (78 Position)

HD-20 Inserts







Shell Size 3



Shell Size 4 (37 Position)



Shell Size 5 (50 Position)

Note: Mating face of plug is shown, receptacle is mirror-image.



HD-22 and HD-20 Connectors Performance Characteristics

Cable Connectors

| _ | | Connector Type | |
|---|--|---|--|
| | HDP-22 | HDE-20 | HDP-20 |
| Electrical Characteristics | | | |
| Contact Current Rating (One pair of contacts) | 22 AWG [0.4mm²] Wire 5.0 amperes | 20 AWG [0.6mm²] 3 amperes | 20 AWG [0.6mm²] 7.5 amperes |
| Termination Resistance | 15 milliohms (max.) | 30 milliohms (max.) | 15 milliohms (max.) |
| Dielectric Withstanding Voltage | 1000 VAC min. | 1000 VAC min. | 1000 VAC min. |
| Insulation Resistance | 5000 megohms min. | 5000 megohms min. | 5000 megohms min. |
| Nechanical Characteristics | | | |
| Contact Insertion Force | 3 lb. max. [13.34 N max.] | N/A | 3 lb. max. [13.34 N max.] |
| Contact Retention | 5 lb. min. [22.24 N min.] | 7 lb. min. [31.14 N min.] | 10 lb. min. [44.48 N min.] |
| Contact Mating Force (Per contact circuit pair) | 8 oz. max. [2.22 N max.] | 8 oz. max. [2.22 N max.] | 8 oz. max. [2.22 N max.] |
| Contact Unmating Force (Per contact circuit pair) | .75 oz. min. [0.209 N min.] | .75 oz. min. [0.209 N min. | .75 oz. min. [0.209 N min.] |
| Tensile Strength | 22 AWG—12 lb. [0.4mm²—53.4 N] 24 AWG—8 lb. [0.2mm²—35.6 N] 26 AWG—4.5 lb. [0.15mm²—20.02 N] 28 AWG—2.7 lb. [0.08mm²—12.01 N] | 20 AWG—9.5 lb. [0.6mm²—42.3 N] 22 AWG—6 lb. [0.4mm²—26.7 N] 24 AWG—4 lb. [0.2mm²—17.79 N] 26 AWG—2.5 lb. [0.15mm²—11.12 N] 28 AWG—2.5 lb. [0.08mm²—11.12 N] 30 AWG—1 lb. [0.05mm²—4.45 N] | 20 AWG—20 lb. [0.6mm²—89 N] 22 AWG—12 lb. [0.4mm²—53.4 N] 24 AWG—8 lb. [0.2mm²—35.6 N] 26 AWG—4.5 lb. [0.15mm²—20.02 N] 28 AWG—2.7 lb. [0.08mm²—12.01 N] |
| Durability | .000030 [0.00076] gold—500 cycles Gold Flash— 100 cycles | .000030 [0.00076] gold—500 cycles Gold Flash— 100 cycles | .000030 [0.00076] gold—500 cycles Gold Flash— 100 cycles |
| nvironmental Characteristics | | | |
| Vibration | Random 20 G's rms max. | Random 20 G's rms max. | Random 20 G's rms max. |
| Physical Shock | 50 G's Duration 11 ms | 50 G's Duration 11 ms | 50 G's Duration 11 ms |

Board Mount Connectors

| | Connector Type |
|--|--|
| | HD-20 |
| Electrical Characteristics | |
| Single Contact Current Rating (30°C Rise) Duration 11 ms | 18 AWG 6.0 amperes 24 AWG 4.3 amperes 28 AWG 2.9 amperes |
| Termination Resistance | 15 milliohms* (max.) |
| Dielectric Withstanding Voltage | 1000 VAC min.** |
| Insulation Resistance | 5000 megohms min. |

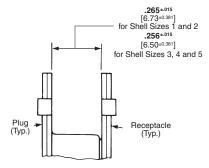
^{*}Stacked Connectors—30 milliohms (max.)
**Stacked Connectors—500 VAC min.

| | | Connector Type HD-20 | | | | |
|---|---------|---|---------------------------------------|--|--|--|
| | | | | | | |
| Nechanical Characte | ristics | | | | | |
| Durability | | .000030 [0.00076] gold—500 cycle Gold Flash—100 cycles | | | | |
| | Size | HD-20 Without Grounding Indents | HD-20 With Grounding Indents | | | |
| | 1 | 4.5 [20.02] | 30.0 [133.5] | | | |
| Connector | 2 | 7.5 [33.4] | 33.0 [146.8] | | | |
| Mating and Unmating Force (lbs. max. over | 3 | 12.5 [55.6] | 37.0 [164.6] | | | |
| [N max.]) | 4 | 18.5 [82.3] | 40.0 [177.9] | | | |
| | 5 | 25.0 [111.2] | 44.0 [195.7] | | | |



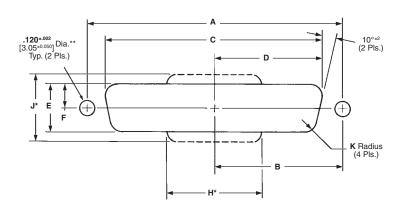
Plug/Receptacle Mating and Panel Mounting Specifications

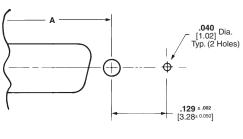
Plug/Receptacle Mating



The .265 [6.73] dimension is required to assure full mating of connector halves. This dimension must be taken into consideration when determining the method of mounting, panel thickness, etc.

Panel Mounting





Cutout for Rear Mount and Short Latching Block

Note: Cutouts are for either plug or receptacle, front or rear panel mount.

| Shell Size | Mounting Method | | Dimensions | | | | | | | | | |
|---------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|--|--|
| (Pos.) | Front/Rear Panel | Α | В | С | D | E | F | Н* | J* | K | | |
| 1 | Front | .984 24.99 | .492 12.50 | .874 22.20 | .437 11.10 | .513 13.03 | .257 6.53 | _ | _ | .083 2.11 | | |
| (9) | Rear | .984 24.99 | .492 12.50 | .806 20.47 | .403 10.24 | .449 11.41 | .225 5.72 | .550 13.97 | .750 19.05 | .132 3.35 | | |
| 2 (15) | Front | 1.312 33.33 | .656 16.66 | 1.202 30.53 | .601 15.27 | .513 13.03 | .257 6.53 | _ | _ | .083 2.11 | | |
| | Rear | 1.312 33.33 | .656 16.66 | 1.134 28.80 | .567 14.40 | .449 11.41 | .225 5.72 | .730 18.54 | .750 19.05 | .132 3.35 | | |
| 3 | Front | 1.852 47.04 | .926 23.52 | 1.743 44.27 | .872 22.15 | .513 13.03 | .257 6.53 | _ | _ | .083 2.11 | | |
| (25) | Rear | 1.852 47.04 | .926 23.52 | 1.674 42.52 | .837 21.26 | .449 11.41 | .225 5.72 | 1.275 32.39 | .750 19.05 | .132 3.35 | | |
| 4 | Front | 2.500 63.50 | 1.250 31.75 | 2.391 60.73 | 1.196 30.38 | .513 13.03 | .257 6.53 | _ | _ | .083 2.11 | | |
| (37) | Rear | 2.500 63.50 | 1.250 31.75 | 2.326 59.08 | 1.163 29.54 | .449 11.41 | .225 5.72 | 1.920 46.05 | .750 16.13 | .132 3.35 | | |
| 5 | Front | 2.406 61.11 | 1.203 30.56 | 2.297 58.34 | 1.149 29.19 | .623 15.82 | .312 7.93 | _ | _ | .083 2.11 | | |
| (50) | Rear | 2.406 61.11 | 1.203 30.56 | 2.218 56.34 | 1.109 28.17 | .555 14.10 | .278 7.06 | 1.753 44.52 | .750 19.05 | .132 3.35 | | |

^{*}Panel cutout configuration with H and J dimensions provides clearance for mounting connectors with cable clamps.

Most plugs and receptacles can be mounted to a panel from either the front or rear, using a variety of accessory hardware. Posted receptacles are rear panel mounted only. Typical examples are shown below.



Typical Front-Panel Mounted Subminiature D Plug



Typical Rear-Panel Mounted Subminiature D Receptacle

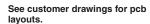
^{**}This dimension is .190^{±002} [4.83^{±0.05}] when posted connectors with fixed female screwlocks are rear-panel mounted.



AMPLIMITE HD-20 Subminiature D Stacked PCB Connectors Hybrid and Mixed Styles

Product Facts

- Stacked pcb connectors save board real estate
- Wide choice of configurations available
- Front Metal-Shells for EMI/RFI shielding
- Housings made of UL 94V-0 rated thermoplastic
- Plug connectors have builtin grounding indents
- Choice of 4-40 threaded insert or female screwlock mating hardware
- Hybrid styles provide maximum selectivity and permit mixing of signal speeds
- Packaged in plastic trays for ease of handling
- Recognized under the Component Program of the Underwriters
 Laboratories, Inc.
 File No. 28476
- Certified by Canadian Standards Association, File No. LR 7189





AMPLIMITE HD-20 Subminiature D Stacked PCB Connectors are members of the complete line of AMPLIMITE Subminiature D Connector family which has been accepted by the electronic industry for their rugged design and ease of application.

Stacked connectors add the advantage of reducing overall board real estate normally consumed by individual pcb connectors. The versatility of the AMPLIMITE HD-20 line enables you to select the stacked connector best suited for your specific application.

AMPLIMITE HD-20 Stacked Connectors, Series II offer a high degree of performance and a reduced cost. The line consists of:

■ Receptacle over Receptacle in 9/9, 15/15, 25/25 and 37/37 contact positions

- Plug over Plug in 9/9, 15/15, 25/25 and 37/37 contact positions
- Receptacle over Plug in 9/9, 15/15, 25/25 and 37/37 contact positions
- Plug over Receptacle in a total of 9/9,15/15, 25/25 and 37/37 contact positions

Configurations are available with a choice of mounting hardware—4-40 threaded inserts and female screwlocks.

Hybrid and Mixed Styles

AMPLIMITE Hybrid and Mixed Stacked Connectors combine a variety of subminiature D connector configurations into a single connector. This permits mixing signal speeds with a substantial reduction in pc board real estate.

All AMPLIMITE Stacked and Mixed PCB Connectors fea-

ture front metal-shells for EMI/RFI shielding, with housings made of UL 94V-0 approved material. The series offers gold plating in 30µ", 10µ" and gold flash on the mating end and tin plating on the termination end, with the entire contact nickel underplated.

Due to the versatility of the AMPLIMITE Hybrid and Mixed lines of connectors any combination with an AMPLIMITE HD-20 Connector as the top connector, HD-22 High Density, and AMPLIMITE .050 Series as the bottom connector can be provided based on your application requirements. Contact Tyco Electronics for additional information.



AMPLIMITE HD-20 Subminiature D Stacked PCB Connectors Hybrid and Mixed Styles (Continued)

Material and Finish:

Housing—94V-0 rated thermoplastic, black

Shell—Steel, tin plated

Contacts:

Pins—Brass

Sockets—Phosphor bronze

Contact Plating:

A—Gold flash on mating end, tin on solder tails with overall nickel plating underneath

B—.000010 [0.00025] gold on mating end, tin on solder tails with overall nickel underplate

C—.000030 [0.00076] gold on mating end, tin on solder tails with overall nickel underplate

Boardlocks-Brass, tin plated

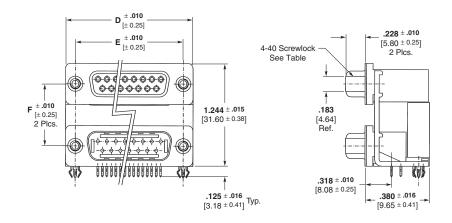
Female Screwlocks—Brass, nickel plated

Threaded Inserts—Brass, tin plated Brackets—Zinc

Technical Documents:

Product Specification 108-57517

See customer drawings for printed circuit board layouts.



| Upper | | Lower | Dimensions | | | Contact | Mounting | Part | | |
|----------|---|------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------|-----------------|-----------|
| D-Sub | | D-Sub | D | Е | F | Finish | Hardware | Number | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | А | 4-40 inserts | 1734279-1 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | В | 4-40 inserts | 1734279-2 | | |
| On Plug | , | On Plug | 1.22 30.95 | .984 24.99 | .750 19.05 | С | 4-40 inserts | 1734279-3 | | |
| 9p Plug | / | 9p Plug | 1.22 30.95 | .984 24.99 | .750 19.05 | Α | 4-40 fem s/l | 1734280-1 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | С | 4-40 fem s/l | 1734280-3 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | А | 4-40 inserts | 1734282-1 | | |
| 9p Plug | / | 9p Rcpt. | 1.22 30.95 | .984 24.99 | .750 19.05 | В | 4-40 inserts | 1734282-2 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | С | 4-40 inserts | 1734282-3 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | А | 4-40 inserts | 1734285-1 | | |
| | | | | | 1.22 30.95 | .984 24.99 | .750 19.05 | В | 4-40 inserts | 1734285-2 |
| | , | On Don't | 1.22 30.95 | .984 24.99 | .750 19.05 | С | 4-40 inserts | 1734285-3 | | |
| 9p Rcpt. | / | / 9p Rcpt. | 1.22 30.95 | .984 24.99 | .750 19.05 | А | 4-40 fem s/l | 1734286-1 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | В | 4-40 fem s/l | 1734286-2 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | С | 4-40 fem s/l | 1734286-3 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | А | 4-40 inserts | 1734207-1 | | |
| 9p Rcpt. | / | 9p Plug | 1.22 30.95 | .984 24.99 | .750 19.05 | В | 4-40 inserts | 1734207-2 | | |
| | | | 1.22 30.95 | .984 24.99 | .750 19.05 | С | 4-40 inserts | 1734207-3 | | |
| | | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | А | 4-40 inserts | 1-1734279- | | |
| 15p Plug | / | 15p Plug | 1.55 39.30 | 1.31 33.30 | .750 19.05 | В | 4-40 inserts | 1-1734279- | | |
| | | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | С | 4-40 inserts | 1-1734279- | | |
| | | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | А | 4-40 inserts | 1-1734282- | | |
| 15p Plug | / | 15p Rcpt. | 1.55 39.30 | 1.31 33.30 | .750 19.05 | В | 4-40 inserts | 1-1734282- | | |
| | | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | С | 4-40 inserts | 1-1734282- | | |

Continued on next page

Note: All part numbers are RoHS compliant.



AMPLIMITE HD-20 Subminiature D Stacked PCB Connectors Hybrid and Mixed Styles

| Upper | Lower | | Dimensions | <u> </u> | Contact | Mounting | Part |
|-----------|-------------|----------------------|-----------------------|-----------------------|---------|-----------------|-------------|
| D-Sub | D-Sub | D | Е | F | Finish | Hardware | Number |
| | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | Α | 4-40 inserts | 1-1734285-1 |
| | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | В | 4-40 inserts | 1-1734285-2 |
| 15n Dont | / 15n Dont | 1.55 39.30 | 1.31 33.30 | .750 19.05 | С | 4-40 inserts | 1-1734285-3 |
| 15p Rcpt. | / 15p Rcpt. | 1.55 39.30 | 1.31 33.30 | .750 19.05 | А | 4-40 fem s/l | 1-1734286-1 |
| | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | В | 4-40 fem s/l | 1-1734286-2 |
| | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | С | 4-40 fem s/l | 1-1734286-3 |
| | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | А | 4-40 inserts | 1-1734207-1 |
| 15p Rcpt. | / 15p Plug | 1.55 39.30 | 1.31 33.30 | .750 19.05 | В | 4-40 inserts | 1-1734207-2 |
| | | 1.55 39.30 | 1.31 33.30 | .750 19.05 | С | 4-40 inserts | 1-1734207-3 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | А | 4-40 inserts | 2-1734279-1 |
| 25p Plug | / 25p Plug | 2.09 53.10 | 1.85 47.04 | .750 19.05 | В | 4-40 inserts | 2-1734279-2 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | С | 4-40 inserts | 2-1734279-3 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | А | 4-40 inserts | 2-1734282-1 |
| 25p Plug | / 25p Rcpt. | 2.09 53.10 | 1.85 47.04 | .750 19.05 | В | 4-40 inserts | 2-1734282-2 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | С | 4-40 inserts | 2-1734282-3 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | А | 4-40 inserts | 2-1734285-1 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | В | 4-40 inserts | 2-1734285-2 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | С | 4-40 inserts | 2-1734285-3 |
| 25p Rcpt. | / 25p Rcpt. | 2.09 53.10 | 1.85 47.04 | .750 19.05 | Α | 4-40 fem s/l | 2-1734286-1 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | В | 4-40 fem s/l | 2-1734286-2 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | С | 4-40 fem s/l | 2-1734286-3 |
| | | 2.09 53.10 | 1.85 47.04 | . 750 19.05 | Α | 4-40 inserts | 2-1734207-1 |
| 25p Rcpt. | / 25p Plug | 2.09 53.10 | 1.85 47.04 | .750 19.05 | В | 4-40 inserts | 2-1734207-2 |
| | | 2.09 53.10 | 1.85 47.04 | .750 19.05 | С | 4-40 inserts | 2-1734207-3 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | Α | 4-40 inserts | 3-1734279-1 |
| 37p Plug | / 37p Plug | 2.73 69.34 | 2.500 63.50 | .750 19.05 | В | 4-40 inserts | 3-1734279-2 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | С | 4-40 inserts | 3-1734279-3 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | Α | 4-40 inserts | 3-1734282-1 |
| 37p Plug | / 37p Rcpt. | 2.73 69.34 | 2.500 63.50 | . 750 19.05 | В | 4-40 inserts | 3-1734282-2 |
| | | 2.73 69.34 | 2.500 63.50 | . 750 19.05 | С | 4-40 inserts | 3-1734282-3 |
| | | 00.01 | 55.55 | | | | |

Continued on next page



AMPLIMITE HD-20 Subminiature D Stacked PCB Connectors Hybrid and Mixed Styles (Continued)

| Upper | Lower | Dimensions | | | Contact | Mounting | Part |
|-----------|-------------|-------------------|--------------------|----------------------|---------|-----------------|-------------|
| D-Sub | D-Sub | D | E | F | Finish | Hardware | Number |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | А | 4-40 inserts | 3-1734285-1 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | В | 4-40 inserts | 3-1734285-2 |
| 07n Dent | / 27n Dont | 2.73 69.34 | 2.500 63.50 | .750 19.05 | С | 4-40 inserts | 3-1734285-3 |
| 37p Rcpt. | / 37p Rcpt. | 2.73 69.34 | 2.500 63.50 | .750 19.05 | Α | 4-40 fem s/l | 3-1734286-1 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | В | 4-40 fem s/l | 3-1734286-2 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | С | 4-40 fem s/l | 3-1734286-3 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | Α | 4-40 inserts | 3-1734207-1 |
| 37p Rcpt. | / 37p Plug | 2.73 69.34 | 2.500 63.50 | .750 19.05 | В | 4-40 inserts | 3-1734207-2 |
| | | 2.73 69.34 | 2.500 63.50 | .750 19.05 | С | 4-40 inserts | 3-1734207-3 |



AMPLIMITE HD-20 Subminiature D Stacked PCB Connectors Hybrid and Mixed Styles

HD-20 Front Metal Shell, Right-Angle AMPLIMITE Connectors

Material and Finish:

Housings and Pin Spacer—94V-0 rated thermoplastic, black

Contacts:

Sockets—Phosphor bronze or brass

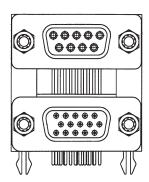
Contact Plating-

Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Shell—Steel, tin plated (1-1734870-1) Steel, nickel plated (1734870-1)

Boardlocks—Copper alloy, plated tin

Bracket—Steel



9 Position HD-20 Receptacle over 15 Position HD-22 Receptacle Part No. 1734870-1 (without Female Screwlocks) Part No. 1-1734870-1 (as shown, with Female Screwlocks)



AMPLIMITE HD-20 Subminiature D Stacked PCB Connectors Hybrid and Mixed Styles (Continued)

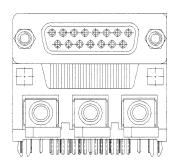
HD-20 Front Metal Shell, Right-Angle Connectors

Material and Finish:

Housing—94V-0 rated PBT, see table Contacts—Phosphor bronze or brass HD22 Receptacle Contact Plating—

Gold flash on contact area, tin on solder tail area, all over nickel underplated

Audio Jack—.000100 [.00254] min. tin over nickel underplate



15 Position HD-20 Receptacle over 3 Position Audio Plug

| Description | Part Number |
|---|-------------|
| With female screwlocks & color-coded audio ¹ | 1734287-2 |
| With color-coded audio ¹ | 1-1734287-2 |

¹ Color coded audio: Audio line in — light blue Audio line out — lime Microphone — pink

High-Rise Connectors

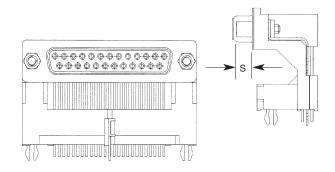
Material and Finish:

Housing—94V-0 rated thermoplastic, burgundy

Contacts—Phosphor bronze

Contact Plating:

A—.000010 [.000254] gold on mating area, tin on solder tails, all over nickel



High-Rise 25 Position HD-20 Receptacle

| Dimension S | Plating Code | Part Number | PC 99 |
|---------------------|--------------|-------------|-------------|
| .236 6.00 | A | _ | 2-1734024-3 |

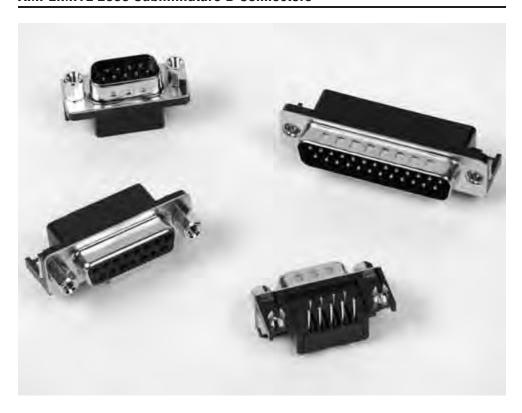


AMPLIMITE 2000 Subminiature D Connectors

Product Facts

- Flame retardant housings, rated up to 105°C
- Front metal-shell design
- Duplex plated gold flash or .000015 [0.00038] min. gold on mating end, tin on solder end, all over nickel underplate
- With boardlocks and 4-40 threads or female screwlocks
- Designed to Office Class II
- 9, 15 & 25 right-angle plugs and receptacles
- Recognized under the Component Program of the Underwriters Laboratories, Inc. File No. E28476

See customer drawings for circuit board layout.



AMPLIMITE 2000

Subminiature D connectors represent the latest breakthrough in economical Subminiature D connector design.

Presently available in the more popular sizes -9-, 15- and 25-receptacles and plugs with a .318 [8.08] printed circuit board footprint, the AMPLIMITE 2000 connector line features front metal-shell RFI/EMI protection, flame retardant housings with integral 4-40 threads, boardlocks, and duplex plated gold-overnickel contacts.

South America: 55-11-2103-6000 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013

UK: 44-8706-080-208



AMPLIMITE 2000 Subminiature Connectors (Continued)

HD-20 Front Metal Shell Right-Angle Connectors

Material and Finish:

Housing—94V-0 rated thermoplastic, black

Shell—Steel, nickel plated

Contacts:

Pins—Brass

Sockets—Phosphor bronze

Contact Plating:

A—Gold flash on mating end, tin on solder tails with overall nickel underplate

B—.000015 [0.00038] gold on mating end, tin on solder tails with overall nickel underplate

Boardlocks-Brass, tin plated

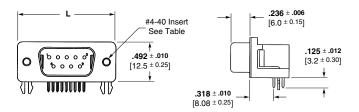
Female Screwlocks—Brass, nickel plated

Threaded Inserts—Brass, nickel plated

Technical Documents:

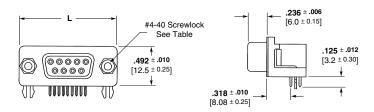
Product Specification

108-57541



Typical Plug

| Shell Size | Contact Finish | Dimension L Ref. | W ith Female Screwlocks | W ith 4—40 Threaded Inserts |
|---------------|-------------------|---------------------|----------------------------|--------------------------------|
| 9 | A 1.210 | | 1734351-1 | 1734352-1 |
| 9 | В | 30.80 | 1734351-2 | 1734352-2 |
| 15 | A | 1.540 | _ | 1734360-1 |
| 15 | В | 39.20 | | 1734360-2 |



Typical Receptacle

| Shell Size | Contact Finish | Dimension L Ref. | W ith Female Screwlocks | W ith 4—40 Threaded Inserts |
|---------------|-------------------|---------------------|----------------------------|--------------------------------|
| 9 | Α | 1.210 | 1734354-1 | 1734348-1 |
| 9 | В | 30.80 | 1734354-2 | 1734348-2 |
| 15 | Α | 1.540 | 1734357-1 | 1734355-1 |
| 15 | В | 39.20 | 1734357-2 | 1734355-2 |
| 25 | Α | 2.090 | 1734349-1 | 1734350-1 |
| 25 | В | 53.10 | 1734349-2 | 1734350-2 |



HD-20 and HD-22 Slimline Connectors

2 Rows of Soldertails

Material and Finish:

Housing—94V-0 rated thermoplastic, black

Shell—Low carbon steel, nickel plated

Contacts—Phosphor bronze or brass

Contact Plating—Gold flash on mating area; .000100 [0.00254] min. tin on solder tail area; overall .000050 [0.00127] min. nickel underplate

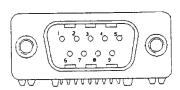
Boardlocks—Brass, tin plated over nickel underplate

Threaded Inserts—Brass, nickel plated

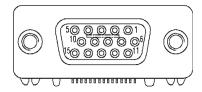
Technical Documents:

Product Specification

108-57541



9 Position Plug Part Number 1734340-1



15 Position VESA Receptacle HD-22 Part Number 1734341-1

1 Row of Soldertails

Material and Finish:

Housing—94V-0 rated thermoplastic, black

Shell—Low carbon steel, nickel plated

Contacts—Brass

Contact Plating—.000015 [0.00038] min. gold on mating area; .000100 [0.00254] min. tin on solder tail area; overall .000050 [0.00127] min. nickel underplate

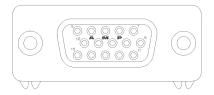
Boardlocks-Brass, tin plated over nickel underplate

Threaded Inserts—Brass, nickel plated

Technical Documents:

Product Specification

108-57541



15 Position VESA Receptacle HD-22 Part Number 1734335-1



HD-22 Right-Angle Posted Subminiature D Connectors

Product Facts

- **■** Flame retardant thermoplastic housing material, UL94V-0 rated
- Low cost front metal shell design compatible with full metal-shell connectors
- Integral boardlock versions secure connectors to pc boards prior to soldering
- Contacts available in platings to satisfy different applications
- Integral threaded inserts and screwlocks available
- Recognized under the Component Program of Underwriters Laboratories, Inc., File No. E28476



HD-22 Front Metal Shell .350 [8.89] PCB Footprint



Plug



Receptacle



HD-22 Right-Angle Posted Subminiature D Connectors (Continued)

Material and Finish:

Housing—94V-0 rated thermoplastic, black

▲ VESA Std. 15-position Receptacle Housing Material—Thermoplastic 94V-0 blue per VESA Std.

Shell—Steel, nickel plated

Contacts

Pins—Brass

Sockets—Phosphor bronze

Contact Plating-

Gold flash, .000015 [0.00038] or .000030 [0.00076] on mating end, tin on solder tails with overall nickel underplate

Boardlocks—Brass, tin plated

Female Screwlocks—Brass, nickel plated

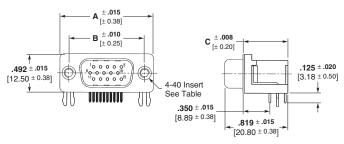
Threaded Inserts—Brass, nickel plated

Technical Documents:

Product Specification—108-1092 Application Specification— 114-13198

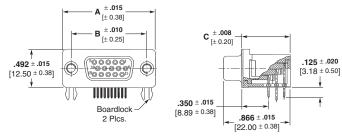
See customer drawings for printed circuit board layouts.

Recognized under the Component Program of Underwriters Laboratories, Inc., File No. E28476



Right-Angle Plug

| No. of | D | imensio | ns | Mounting | PCB | | Part Numbers | |
|----------------------|--------------------|-----------------------|----------------------|---------------------|-------------------|---------------|--------------|--------------|
| Contact Positions | A | В | С | Hardware | Mounting Style | Gold Flash | 15K" Goĺd | 30K" Goĺd |
| 15 | 1.212 30.81 | .984 24.99 | .582 14.80 | 4-40 inserts | board locks | _ | 5749767-2 | 5749767-1 |
| 15 | 1.212 30.81 | .984 24.99 | .582 14.80 | 4-40 screw locks | board locks | 5749768-3 | 5749768-2 | 5749768-1 |
| 26 | 1.543 39.20 | 1.312 33.32 | .583 14.81 | 4-40 inserts | board locks | 5749769-3 | 5749769-2 | 5749769-1 |
| 44 | 2.089 53.05 | 1.852 47.04 | .593 15.06 | 4-40 inserts | board locks | 5749771-3 | 5749771-2 | 5749771-1 |
| 62 | 2.732 69.40 | 2.500 63.50 | .593 15.06 | 4-40 inserts | board locks | 5749639-3 | 5749639-2 | 5749639-1 |
| 78 | 2.638 67.00 | 2.400 61.00 | .693 17.60 | 4-40 screw locks | board locks | 5749234-3 | 5749234-2 | _ |



Right-Angle Receptacle

| No. of | D | imensio | ns | Mounting | PCB | | Part Numbers | 5 |
|----------------------|-----------------------|-----------------------|----------------------|---------------------|-------------------|---------------|--------------|--------------|
| Contact Positions | A | В | С | Hardware | Mounting Style | Gold Flash | 15K" Gold | 30K" Gold |
| 15 | 1.212 30.81 | .984 25.00 | .630 16.00 | 4-40 inserts | board locks | 1-1734530-1 | 1-1734530-2 | 1-1734530-3 |
| 15 | 1.212 30.81 | .984 25.00 | .630 16.00 | 4-40 screw locks | board locks | 1734530-1 | 1734530-2 | 1734530-3 |
| | 1.212 30.81 | .984 25.00 | .630 16.00 | 4-40 inserts | board locks | 1734344-1 | _ | 2-1734344-3 |
| 15 VESA | 1.212 30.80 | .984 25.00 | .630 16.00 | 4-40 screw locks | board locks | 1-1734344-1 | _ | _ |
| 26 | 1.543 39.20 | 1.311 44.32 | .593 15.06 | 4-40 inserts | board locks | 2-5748481-3 | 2-5748481-2 | 5748481-5 |
| 20 | 1 5/12 1 211 502 / // | board locks | 2-5748481-5 | 2-5748481-4 | 5748481-6 | | | |
| 44 | 2.089 53.05 | 1.852 47.04 | .583 14.81 | 4-40 inserts | board locks | 2-5748482-4 | 2-5748482-3 | 5748482-5 |
| 44 | 2.089 53.05 | 1.852 47.04 | .583 14.81 | 4-40 screw locks | board locks | _ | 2-5748482-5 | _ |
| 62 | 2.732 69.40 | 2.500 63.50 | .583 14.81 | 4-40 inserts | board locks | 2-5748394-4 | 2-5748394-3 | 5748394-5 |
| | 2.732 69.40 | 2.500 63.50 | .583 14.81 | 4-40 screw locks | board locks | 2-5748394-6 | 2-5748394-5 | 5748394-6 |
| 78 | 2.638 67.00 | 2.400 61.00 | .693 17.60 | 4-40 inserts | board locks | 2-5748483-1 | 2-5748483-0 | 5748483-5 |
| | 2.638 67.00 | 2.400 61.00 | .693 17.60 | 4-40 screw locks | board locks | | 2-5748483-2 | 5748483-6 |



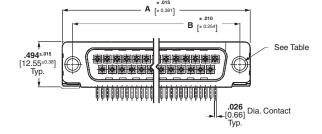
HD-20 Front Metal-Shell Right-Angle Posted Connectors 318 Mount

Post Size—.026 [0.66] Dia.

Plug



With Grounding Indents and Grounding Straps

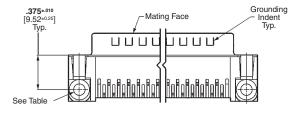


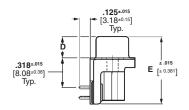


With Threaded Insert



With Fixed Female Screwlock





Material and Finish:

 $\textbf{Front Shell} \\ \textbf{--} \\ \textbf{Steel, tin plated}$

Housing—94V-0 rated thermoplastic,

Eyelets—Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks—Copper alloy, tin plated

 $\label{eq:posted} \textbf{Pin Contacts (Posted)} \\ \textbf{--} \\ \textbf{Brass},$

duplex plated as follows:

A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025

Application Specification—114-40010

See customer drawings for printed

circuit board layouts.

- Recognized under the Component Program of Underwriters
 Laboratories, Inc.,
 File No. E28476
- Certified by Canadian Standards Association, File No. LR 7189



| | | | | | | | Plug Part Numbers | | | | | | |
|---------------|----------------------|-------|-------|-------|-------|-----------------------------|---------------------------------------|-----------------------------|------------------------------------|---------------------------------------|-----------------------------|------------------------------------|--|
| 01 | No. of | | Dimen | oiono | | Contact | Wi | thout Boardl | ocks | | With Boardloo | cks | |
| Shell Size | Contact Positions | Α | В | D | E | Finish (Plating Code) | With Standard Mounting Holes | With Threaded Inserts | With Fixed Female Screwlocks | With Standard Mounting Holes | With Threaded Inserts | With Fixed Female Screwlocks | |
| | 9 | 1.213 | .984 | .235 | .733 | Α | 5747250-2 | 5747250-4 | 5747250-6 | 5747840-2 | 5747840-4 | 5747840-6 | |
| ' | 9 | 30.81 | 24.99 | 5.97 | 18.62 | В | _ | 5747250-3 | _ | _ | 5747840-3 | 5747840-5 | |
| 2 | 15 | 1.541 | 1.312 | .235 | .733 | Α | 5747236-2 | 5747236-4 | 5747236-6 | 5747841-2 | 5747841-4 | 5747841-6 | |
| 2 | 15 | 39.14 | 33.33 | 5.97 | 18.62 | В | _ | 5747236-4 | _ | _ | 5747841-3 | _ | |
| 3 | 25 | 2.088 | 1.852 | .230 | .738 | Α | 5747238-2 | 5747238-4 | 5747238-6 | 5747842-2 | 5747842-4 | 5747842-6 | |
| 3 | 25 | 53.04 | 47.04 | 5.84 | 18.75 | В | 5747238-2 | 5747238-3 | _ | _ | 5747842-3 | 5747842-5 | |
| | 37 | 2.729 | 2.500 | .230 | .740 | Α | _ | 5747252-4 | _ | 5747843-2 | 5747843-4 | 5747843-6 | |
| 4 | 37 | 69.32 | 63.50 | 5.84 | 18.80 | В | _ | _ | _ | _ | 5747843-3 | | |

Notes: 1. All plug connectors are preloaded with size 20 DF posted pin contacts.

- 2. Recommended pc board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max. for all others.
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.



HD-20 Front Metal-Shell Right-Angle Posted Connectors 318 Mount (Continued)

Post Size—.026 [0.66] Dia.

Receptacle



With Grounding Straps

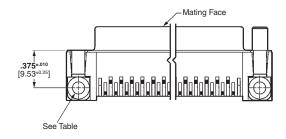


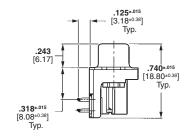
With Threaded Insert



With Fixed Female Screwlock

A [= 0.381] A [= 0.284] B [= 0.254] B [= 0.254] See Table Occion [Occion [Typ.] Dia.





Material and Finish:

Front Shell—Steel, tin plated
Housing—94V-0 rated thermoplastic,
black

Eyelets—Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks—Copper alloy, tin plated

Socket Contacts (Posted)-

Phosphor bronze, duplex plated as follows:

A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025
Application Specification—
114-40010

| | | | | | | | Recepta | cle Part Numbe | ers | |
|---------------|----------------------|--------------------|--------------------|-----------------------------|---------------------------------------|-----------------------------|------------------------------------|---------------------------------------|-----------------------------|------------------------------------|
| | No. of | of Dimensions | | Contact | V | /ithout Boardlo | ocks | , | With Boardloc | ks |
| Shell Size | Contact Positions | A | B | Finish (Plating Code) | With Standard Mounting Holes | With Threaded Inserts | With Fixed Female Screwlocks | With Standard Mounting Holes | With Threaded Inserts | With Fixed Female Screwlocks |
| -1 | 9 | 1.213 | .984 | А | 5745781-2 | 5745781-4 | 5745781-6 | 5747844-2 | 5747844-4 | 5747844-6 |
| ' | 9 | 30.81 | 24.99 | В | _ | 5745781-3 | _ | _ | 5747844-3 | 5747844-5 |
| 2 | 15 | 1.541 | 1.312 | Α | 5745782-2 | 5745782-4 | 5745782-6 | _ | 5747845-4 | 5747845-6 |
| 2 | 15 | 39.14 | 33.33 | В | _ | _ | _ | _ | 5747845-3 | 5747845-5 |
| 3 | 25 | 2.088 | 1.852 | Α | 5745783-2 | 5745783-4 | 5745783-6 | 5747846-2 | 5747846-4 | 5747846-6 |
| 3 | 25 | 53.04 | .04 47.04 B | | _ | 5745783-3 | 5745783-5 | _ | 5747846-3 | 5747846-5 |
| 4 | 37 | 2.729 69.32 | 2.500 63.50 | Α | 5745784-2 | 5745784-4 | 5745784-6 | _ | 5747847-4 | 5747847-6 |

Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.

2. Recommended pc board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max. for all others.

3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

Note: All part numbers are RoHS compliant.

55



HD-20 Front Metal-Shell Right-Angle Posted Connectors 318 Mount (Continued)

Post Size—.026 [0.66] Dia.

Plug



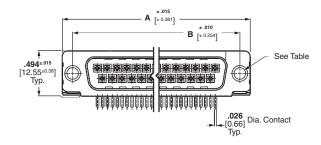
With Grounding Indents and Grounding Straps

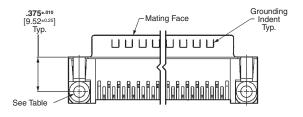


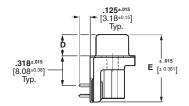
With Threaded Insert



With Fixed Female Screwlock







Material and Finish:

Front Shell—Steel, tin plated

Housing—94V-0 rated thermoplastic, compatible with standard wave, vapor phase, and infra-red reflow (SMT) soldering, black

Eyelets-Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks --- Copper alloy, tin plated

Pin Contacts (Posted)—Brass, duplex plated as follows:

A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 Application Specification— 114-40010

| | Shell Size | No. of | | Dimen | sions | | Contact Finish | | t Numbers pardlocks |
|--|---------------|----------------------|-------|-------|-------|-------|-------------------|-----------------------------|------------------------------------|
| | | Contact Positions | Α | В | D | Е | (Plating Code) | With Threaded Inserts | With Fixed Female Screwlocks |
| | 1 | 9 | 1.213 | .984 | .235 | .733 | Α | 5788792-1 | 5788793-1 |
| | ' | 9 | 30.81 | 24.99 | 5.97 | 18.62 | В | 5788792-2 | 5788793-2 |
| | 2 | 25 | 2.088 | 1.852 | .230 | .738 | Α | 5788794-1 | 5788795-1 |
| | 3 | 25 | 53.04 | 47.04 | 5.84 | 18.75 | В | 5788794-2 | _ |

Notes: 1. All plug connectors are preloaded with size 20 DF posted pin contacts.

- Recommended pc board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max. for all others.
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.



HD-20 Front Metal-Shell Right-Angle Posted Connectors 318 Mount (Continued)

Post Size—.026 [0.66] Dia.

Receptacle



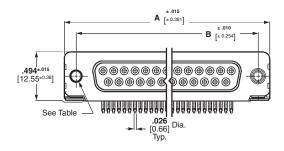
With Grounding Straps

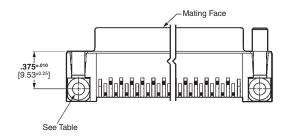


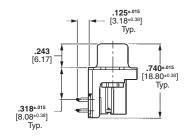
With Threaded Insert



With Fixed Female Screwlock







Material and Finish:

Front Shell—Steel, tin plated

Housing—94V-0 rated thermoplastic, compatible with standard wave, vapor phase, and infra-red reflow (SMT) soldering, black

Eyelets-Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks—Copper alloy, tin plated Socket Contacts (Posted)-

Phosphor bronze, duplex plated as fol-

A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents: Product Specification—108-40025

Application Specification-114-40010

| | | | | | Receptac | le Part Numbe | ers | |
|-------|----------------------|--------------------|--------------------|-------------------|------------------------------------|-----------------------------|------------------------------------|-----------|
| Shell | No. of | Dime | nsions | Contact Finish | Without Boardlocks | With Boardlocks | | |
| Size | Contact Positions | Α | A B | | With Fixed Female Screwlocks | With Threaded Inserts | With Fixed Female Screwlocks | |
| -1 | 9 | 1.213 | .984 | Α | 5788803-1 | 5788796-1 | 5788797-1 | |
| 1 | 9 | 30.81 | 24.99 | В | _ | 5788796-2 | 5788797-2 | |
| 0 | 45 | 1.541 | 1.312 | Α | _ | 5788798-1 | 5788799-1 | |
| 2 | 15 | 39.14 | 33.33 | В | _ | 5788798-1 | _ | |
| | 3 25 | 0.5 | 2.088 | 1.852 | Α | _ | 5788800-1 | 5788801-1 |
| 3 | | 53.04 | 47.04 | В | _ | 5788800-2 | 5788801-2 | |
| 4 | 37 | 2.729 69.32 | 2.500 63.50 | Α | _ | 5788802-1 | _ | |

Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.

- $2. \ Recommended \ pc \ board \ thickness \ is \ .062 \ [1.58] \ for \ connectors \ with \ boardlocks \ and \ .093 \ [2.36] \ max. \ for \ boardlocks \ and \ .093 \ [2.36] \ max.$
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

Note: All part numbers are RoHS compliant.

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HD-20 Full Metal-Shell Right-Angle Posted Connectors 454 Mount

Post Size—.025 [0.64] Sq.

Receptacle



Material and Finish:

Shell—Steel, tin plated

Insert—94V-0 rated thermoplastic, black

Contacts (Posted):

Pin—Brass

Socket—Phosphor bronze

Contact Plating:

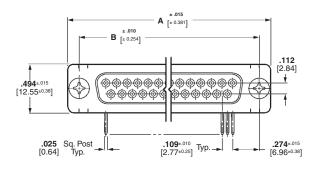
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

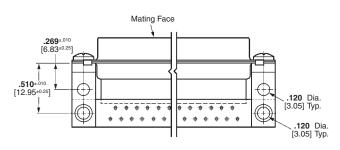
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

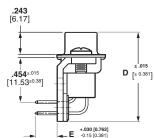
Technical Documents:

Product Specification—108-40025 Application Specification— 114-40013

See customer drawings for printed circuit board layouts.







| No. of | | | Dime | Contact Finish | Part | | |
|------------|----------------------|-------|-------|-------------------|---------------------|-------------------|-----------|
| Shell Size | Contact Positions | Α | В | D | E | (Plating Code) | Number |
| | | | | | .125 | Α | 5745438-4 |
| 4 | 9 | 1.213 | .984 | .915 | 3.18 | В | 5745438-3 |
| ' | 9 | 30.81 | 24.99 | 23.24 | .220 5.59 | В | 5745438-1 |
| 2 | 15 | 1.541 | 1.312 | 915 | .125 3.18 | А | 5745439-4 |
| 2 | 15 | 39.14 | 33.33 | 23.24 | .220 5.59 | А | 5745439-2 |
| 3 | 25 | 2.088 | 1.852 | .919 | .125 3.18 | А | 5745440-4 |
| 3 | 25 | 53.04 | 47.04 | 23.34 | .220 5.59 | В | 5745440-1 |
| 4 | 37 | 2.729 | 2.500 | .919 | .125 3.18 | А | 5745441-4 |
| 4 | 3/ | 69.32 | 63.50 | 23.34 | .220 5.59 | В | _ |

Notes: 1. All connectors are preloaded with size 20 DF posted contacts; plugs with pin contacts and receptacles with

2. .125 [3.18] post length is recommended for pc board thickness of .093 [2.36] max.; .220 [5.59] post length is recommended for pc board thickness of .125 [3.18] max.



HD-20 Full Metal-Shell Right-Angle Posted Connectors 454 Mount (Continued)

Post Size—.025 [0.64] Sq.

Plug



Without Grounding Indents



With Grounding Indents

Material and Finish:

Shell—Steel, tin plated

Insert—94V-0 rated thermoplastic, black

Contacts (Posted):

Pin—Brass

Socket—Phosphor bronze

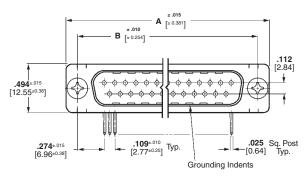
Contact Plating:

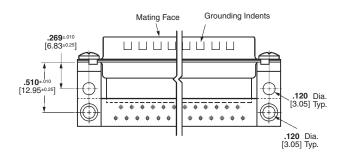
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

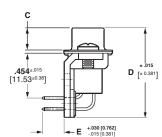
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 Application Specification— 114-40013







| | No. of | | _ | | Contact | Part Numbers | | | |
|-------------|-----------|-------|-------|-----------|----------------------|----------------------|-------------------|----------------------|---|
| Shell Size | Contact | | [| Dimension | s | | Finish | With | |
| Sileli Size | Positions | Α | В | С | D | E | (Plating Code) | Grounding Indents | |
| | | | | | | .125 | Α | 5745434-8 | |
| 4 | 9 | 1.213 | .984 | .235 | .915 _ 23.24 | .915 | 3.18 | В | _ |
| ı | 9 | 30.81 | 24.99 | 5.97 | | .220 5.59 | В | _ | |
| 2 | 15 | 1.541 | 1.312 | .235 | .915 | .125 3.18 | Α | 5745435-8 | |
| 2 | 15 | 39.14 | 33.33 | 5.97 | 23.24 | .220 5.59 | Α | _ | |
| 3 | 25 | 2.088 | 1.852 | .230 | .919 23.34 | .125 3.18 | Α | _ | |
| 3 | 25 | 53.04 | 47.04 | 5.84 | | .220 5.59 | В | 5745436-3 | |
| 4 | 37 | 2.729 | 2.500 | .230 | .919 | .125 3.18 | Α | 5745437-8 | |
| 4 | 3/ | 69.32 | 63.50 | 5.84 | 23.34 | . 220 5.59 | В | 5745437-3 | |

Notes: 1. All connectors are preloaded with size 20 DF posted contacts; plugs with pin contacts and receptacles with socket contacts.

2. .125 [3.18] post length is recommended for pc board thickness of .093 [2.36] max.; .220 [5.59] post length is recommended for pc board thickness of .125 [3.18] max.



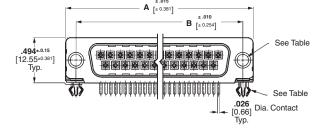
HD-20 Front Metal-Shell Right-Angle Posted Connectors 478 Mount

Post Size—.026 [0.66] Dia.

Plug



With Grounding Indents and Grounding Straps







With Fixed Female Screwlock

Material and Finish:

Front Shell—Steel, tin plated
Housing—94V-0 rated thermoplastic,
black

Eyelets-Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks—Copper alloy, tin plated

 $\label{eq:posted} \textbf{Pin Contacts (Posted)} \\ \textbf{--} \\ \textbf{Brass},$

duplex plated as follows:

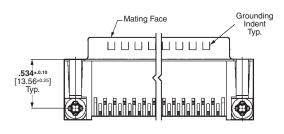
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

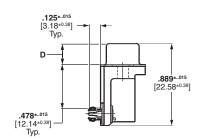
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 **Application Specification**— 114-40010

See customer drawings for printed circuit board layouts.





| | | | | | Plug Par | rt Number | |
|-------|----------------------|-----------------------|-----------------------|----------------------|--|-----------------------------|------------------------------------|
| Shell | No. of | Г | Dimension | ıs | Contact Finish (Plating Code) | With Bo | oardlocks |
| Size | Contact Positions | Α | В | D | | With Threaded Inserts | With Fixed Female Screwlocks |
| 1 | 9 | 1.213 30.81 | .984 24.99 | .235 5.97 | А | 5747848-4 | _ |
| 3 | 25 | 2.088 53.04 | 1.852 47 04 | . 230 5.84 | Α | _ | 5747850-6 |

Notes: 1. All plug connectors are preloaded with size 20 DF posted pin contacts.

Recommended pc board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max. for all others.

Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.



HD-20 Front Metal-Shell Right-Angle Posted Connectors 478 Mount (Continued)

Post Size—.026 [0.66] Dia.

Receptacle



With Grounding Straps



With Threaded Insert



With Fixed Female Screwlock

Material and Finish:

Front Shell—Steel, tin plated
Housing—94V-0 rated thermoplastic,
black

Eyelets—Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks—Copper alloy, tin plated

Socket Contacts (Posted)—

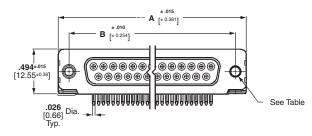
Phosphor bronze, duplex plated as follows:

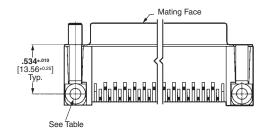
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

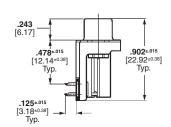
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 **Application Specification**— 114-40010







| | | | | | Receptacle Pa | Receptacle Part Numbers | | |
|-------|----------------------|-----------------------|----------------------|-------------------|-----------------------------|-----------------------------|--|--|
| Shell | No. of | Dimen | Contact sions Finish | | Without Boardlocks | With Boardlocks | | |
| Size | Contact Positions | Α | В | (Plating Code) | With Threaded Inserts | With Threaded Inserts | | |
| 1 | 9 | 1.213 30.81 | .984 24.99 | А | 5747418-4 | 5747852-4 | | |

Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.

- 2. Recommended pc board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max. for all others.
- Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.



HD-20 Full Metal-Shell Right-Angle Posted Connectors 545 Mount

Post Size—.025 [0.64] Sq.

Plug



Without Grounding Indents



With Grounding Indents



With 4-40 Female Screwlocks

Material and Finish:

Shell—Steel, tin plated **Insert**—94V-0 rated thermoplastic, black

Female Screwlock—Steel, zinc plated

Pin Contacts (Posted)—Brass, duplex plated as follows:

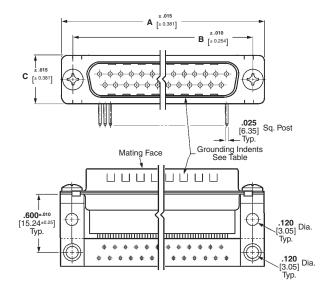
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

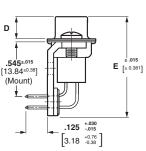
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

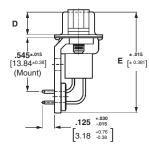
Product Specification—108-40025 Application Specification— 114-40013

See customer drawings for printed circuit board layouts.





With Standard Mounting Screws



With 4-40 Female Screwlocks

| | | | | | | | | Plug Part Numbers | | | |
|---------------|-------------------|--------------------|----------------------|-------------------|------------------|--------------------|---|-----------------------------------|----------------------------------|---------------------------|--|
| Shell Size | No. of Contact | | Dir | nensio | ns | | Contact Without Finish Grounding (Plating Indents | | With Grounding Indents | | |
| | Pos. | Α | В | С | D | E | Code) | With Standard Mounting Screws* | With Standard Mounting Screws | With Female Screwlocks | |
| 1 | 9 | 1.213 30.81 | .984 24.99 | .494 12.55 | .235 5.99 | 1.025 26.04 | Α | 5745351-2 | 5745351-4 | 5747197-4 | |
| 2 | 15 | 1.541 | 1.312 | .494 | .235 | 1.025 | Α | _ | 5745352-4 | _ | |
| 2 | 15 | 39.14 | 33.33 | 12.55 | 5.99 | 26.04 | В | 5745352-1 | _ | _ | |
| 3 | 25 | 2.088 53.04 | | .494 12.55 | .230 5.84 | 1.029 26.14 | Α | _ | _ | 5747022-2 | |
| 4 | 37 | 2.729 69.32 | | .494 12.55 | .230 5.84 | 1.029 26.14 | Α | _ | 5745354-4 | _ | |
| 5 | 50 | | 2.406 61.11 | .605 15.37 | .230 5.84 | 1.149 29.19 | Α | _ | 5745355-4 | 5747497-4 | |

^{*}These plugs can be made available with female screwlocks, consult Tyco Electronics.

Notes: 1. All plugs are preloaded with size 20 DF posted pin contacts.

2. Recommended pc board thickness is .093 [2.36] max.

3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.



HD-20 Full Metal-Shell Right-Angle Posted Connectors 545 Mount (Continued)

Post Size—.025 [0.64] Sq.

Receptacle





With 4-40 **Female Screwlocks**

Material and Finish:

Shell—Steel, tin plated

Insert—94V-0 rated thermoplastic,

Female Screwlock—Steel, zinc plated

Socket Contacts (Posted)-

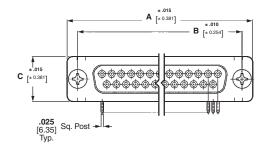
Phosphor bronze, duplex plated as

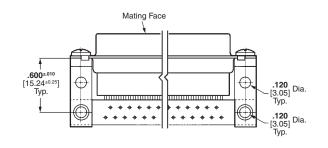
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

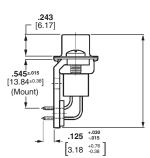
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 Application Specification-114-40013







| Shell | No. of Contact | | Dimer | nsions | | Contact Finish | Receptacle Pa | Receptacle Part Numbers | |
|-------|-------------------|-----------------------|-----------------------|----------------------|--------------------|-------------------|----------------------------------|---------------------------|--|
| Size | Positions | Α | В | С | E | (Plating Code) | With Standard Mounting Screws | With Female Screwlocks | |
| | 0 | 1.213 | .984 | .494 | 1.033 | Α | 5745112-2 | 5747020-2 | |
| ı | 9 | 30.81 | 24.99 | 12.55 | 26.24 | В | _ | 5747020-1 | |
| 2 | 15 | 1.541 39.14 | 1.312 33.33 | .494 12.55 | 1.033 26.24 | Α | 5745113-2 | 5747021-2 | |
| 3 | 25 | 2.088 53.04 | 1.852 47.04 | .494 12.55 | 1.033 26.24 | Α | 5745114-2 | 5745536-2 | |
| 4 | 37 | 2.729 69.32 | 2.500 63.50 | .494 12.55 | 1.033 26.24 | А | 5745115-2 | _ | |
| 5 | 50 | 2.635 | 2.406 | .605 | 1.153 | Α | 5745116-2 | 5747193-2 | |
| 5 | 50 | 66.93 | 61.11 | 15.37 | 29.29 | B | 5745116-1 | 5747193-1 | |

Notes: 1. All receptacles are preloaded with size 20 DF posted socket contacts.

2. Recommended pc board thickness is .093 [2.36] max.
3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

Note: All part numbers are RoHS compliant.

South America: 55-11-2103-6000

Hong Kong: 852-2735-1628 Japan: 81-44-844-8013

UK: 44-8706-080-208



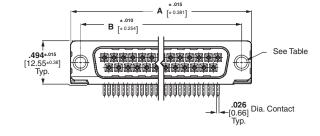
HD-20 Front Metal-Shell Right-Angle Posted Connectors 590 Mount

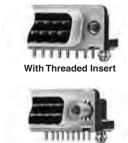
Post Size—.026 [0.66] Dia.

Plug

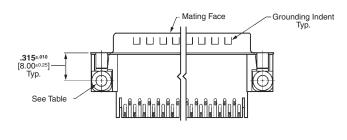


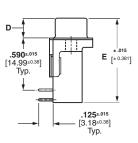
With Grounding Indents and Grounding Straps





With Fixed Female Screwlock





Material and Finish:

Front Shell—Steel, tin plated **Housing**—94V-0 rated thermoplastic,

Eyelets—Brass, tin plated

black

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks—Copper alloy, tin plated

Pin Contacts (Posted)—Brass,

duplex plated as follows:

A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025

Application Specification—

114-40010

| | | | | | | Plug Part Numbers | | |
|----------------------|------------------------------|--|--|--|--|---|--|------------------------------|
| Shell No. of | | Dimens | sions | | Contact | Without Boardlocks | With Boardlocks | |
| Contact Positions | A B D E (Plating Code) | | With Threaded Inserts | With Threaded Inserts | With Fixed Female Screwlocks | | | |
| 0 | 1,213 | .984 | .235 | .965 | Α | 5745990-4 | 5747832-4 | 5747832-6 |
| 9 | 30.81 | 24.99 | 5.97 | 24.51 | В | 5745990-3 | 5747832-3 | _ |
| 15 | 1.541 39.14 | 1.312 33.33 | .235 5.97 | .965 24.51 | Α | _ | 5747833-4 | 5747833-6 |
| 25 | 2.088 53.04 | 1.852 47.04 | .230 5.84 | .970 24.64 | Α | 5745994-4 | 5747834-4 | 5747834-6 |
| 37 | 2.729 69.32 | 2.500 63.50 | .230 5.84 | .972 24.69 | Α | _ | 5747835-4 | 5747835-6 |
| | Contact Positions 9 15 25 | Contact Positions A 9 1.213 30.81 15 1.541 39.14 25 2.088 53.04 27 2.729 | Contact Positions A B 9 1.213 30.81 .984 24.99 15 1.541 39.14 1.312 39.14 25 2.088 53.04 1.852 47.04 27 2.729 2.500 | Contact Positions A B D 9 1.213 30.81 .984 24.99 .235 5.97 15 1.541 39.14 1.312 33.33 .235 5.97 25 2.088 53.04 1.852 47.04 .230 5.84 27 2.729 2.500 .230 | Contact Positions A B D E 9 1.213 30.81 .984 24.99 .235 5.97 .965 24.51 15 1.541 39.14 1.312 33.33 .235 5.97 .24.51 25 2.088 53.04 1.852 47.04 .230 58.4 .970 24.64 27 2.729 2.500 .230 .972 | Contact Positions A B D E Finish (Plating Code) | No. of Contact Positions Dimensions E Contact Finish (Plating Code) Without Boardlocks With Threaded Inserts 9 1.213 .984 .235 .965 A 5745990-4 30.81 24.99 5.97 24.51 B 5745990-3 15 1.541 1.312 .235 .965 A — 25 2.088 1.852 .230 .970 A 5745994-4 25 2.088 1.852 .230 .970 A 5745994-4 27 2.729 2.500 .230 .972 A | No. of the contact Positions |

Notes: 1. All plug connectors are preloaded with size 20 DF posted pin contacts.

2. Recommended pc board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max. for all others.

3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

Note: All part numbers are RoHS compliant.

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Catalog 82068 Revised 1-08 Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752 Canada: 1-905-470-4425 Mexico: 01-800-733-8926 C. America: 52-55-1106-0803 South America: 55-11-2103-6000 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013 UK: 44-8706-080-208



HD-20 Front Metal-Shell Right-Angle Posted Connectors 590 Mount (Continued)

Post Size—.026 [0.66] Dia.

Receptacle



With Grounding Straps



With Threaded Insert



With Fixed Female Screwlock

Material and Finish:

Front Shell—Steel, tin plated Housing—94V-0 rated thermoplastic,

Eyelets-Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

Boardlocks—Copper alloy, tin plated

Socket Contacts (Posted)-

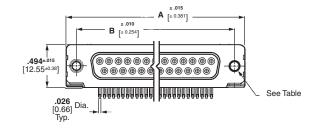
Phosphor bronze, duplex plated as follows:

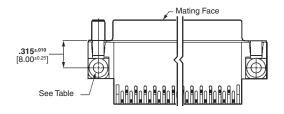
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

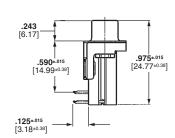
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 Application Specification-114-40010







| | | | | | Receptacle Part Numbers | | | | |
|-------|----------------------|-----------------------|-----------------------|-------------------|-----------------------------|------------------------------------|-----------------------------|------------------------------------|--|
| Shell | Chall No. of | | nsions | Contact Finish | Without I | Without Boardlocks | | pardlocks | |
| Size | Contact Positions | Α | В | (Plating Code) | With Threaded Inserts | With Fixed Female Screwlocks | With Threaded Inserts | With Fixed Female Screwlocks | |
| 1 | 9 | 1.213 30.81 | .984 24.99 | Α | 5745988-4 | 5745988-6 | 5747836-4 | 5747836-6 | |
| 2 | 15 | 1.541 39.14 | 1.312 33.33 | Α | 5745984-4 | _ | 5747837-4 | _ | |
| 0 | 0.5 | 2.088 | 1.852 | Α | _ | 5745992-6 | 5747838-4 | 5747838-6 | |
| 3 | 25 | 53.04 | 47.04 | В | 5745992-3 | _ | 5747838-3 | _ | |
| 4 | 37 | 2.729 69.32 | 2.500 63.50 | Α | 5745996-4 | _ | 5747839-4 | _ | |

Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.

- 2. Recommended pc board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max. for
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.



HD-20 All-Plastic Right-Angle Posted Connectors 318 Mount

Receptacle—With Boardlocks



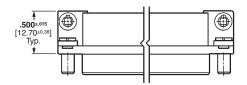
With Threaded Insert

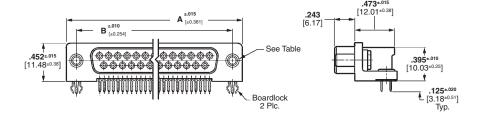


With Threaded Insert



With Fixed Female Screwlock





Mating Face

Material and Finish:

Housing—94V-0 rated thermoplastic, black

Eyelets—Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

as follows:

A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

Тур. **Boardlock**—Copper alloy, tin plated Socket Contacts (Posted)-Phosphor bronze, duplex plated

Technical Documents:

Product Specification—108-1226 Application Specification-114-40027

See customer drawings for printed circuit board layouts.

| | | | | Contact | Part N | umbers |
|---------------|--------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------|------------------------------------|
| Shell Size | No. of Contact Positions | Dimer | nsions B | Finish (Plating Code) | With Threaded Inserts | With Fixed Female Screwlocks |
| 1 | 9 | 1.222 31.04 | .984 24.99 | А | _ | 5748979-1 |
| 3 | 25 | 2.090 53.09 | 1.852 47.04 | А | 5748901-1 | 5748981-1 |

Consult Tyco Electronics for availability.

Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.

2. Recommended pc board thickness is .062 [1.58].

3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

HD-20 All-Plastic Right-Angle Posted Connectors 318 Mount (Continued) Plug





With Threaded Insert

Material and Finish:

Housing—94V-0 rated thermoplastic. black

Eyelets-Brass, tin plated Threaded Inserts—Zinc

Boardlock—Copper alloy, tin plated

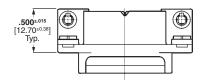
Pin Contacts (Posted)—Copper alloy, duplex plated as follows: **A**—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

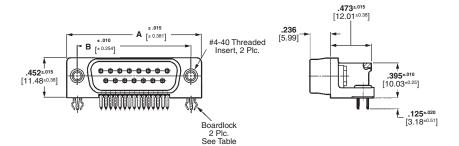
B—.000010 [0.00025] min. gold on mating end, tin on termination end, with entire contact nickel underplated

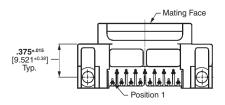
Technical Documents:

Product Specification—108-1226 Application Specification-114-40027

See customer drawings for printed circuit board layouts.







| Shell | No. of Contact | Dimensions | | Contact Finish | Part Numbers With Threaded Inserts | |
|-------|-------------------|-----------------------|-----------------------|-------------------|---------------------------------------|-----------------------|
| Size | Positions | Α | В | (Plating Code) | With Boardlocks | Without Boardlocks |
| 2 | 15 | 1.550 39.37 | 1.312 33.32 | Α | 5748904-1 | _ |
| 3 | 25 | 2.090 53.09 | 1.852 47.04 | В | _ | 5748865-3 |

Consult Tyco Electronics for availability.

Notes: 1. All plug connectors are preloaded with size 20 DF posted pin contacts.

2. Recommended pc board thickness is .062 [1.58].

3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

Note: All part numbers are RoHS compliant.

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HD-20 All-Plastic Right-Angle Posted Connectors 318 Mount (Continued)

Post Size—.026 [0.66] Dia.

Receptacle—Without Boardlocks



With Standard Mounting Holes



With Threaded Insert



With Fixed Female Screwlock

Material and Finish:

Housing—94V-0 rated thermoplastic, black

Threaded Inserts—Zinc, chromate coated

Female Screwlocks—Zinc, chromate

Socket Contacts (Posted)-

Phosphor bronze, duplex plated as follows:

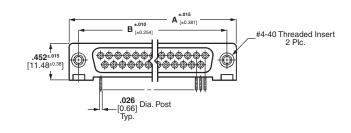
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

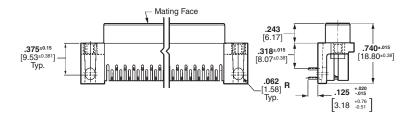
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 Application Specification— 114-40015

See customer drawings for printed circuit board layouts.





| | | | | Contact | | Part Numbers | | | |
|---------------|--------------------------------|---------|-------|--|-----------------------------|------------------------------------|--|--|--|
| Shell Size | No. of Contact Positions | A Dimer | B B | Contact Finish (Plating Code) | With Threaded Inserts | With Fixed Female Screwlocks | With .125 [3.18] Mounting Holes | | |
| | 9 | 1.213 | .984 | Α | 5745394-2 | 5745395-2 | | | |
| | 9 | 30.81 | 24.99 | В | _ | _ | 5745131-1 | | |
| 2 | 15 | 1.541 | 1.312 | Α | _ | 5745396-2 | 5745396-2 | | |
| 2 | 15 | 39.14 | 33.32 | В | _ | _ | _ | | |
| 3 | 25 | 2.088 | 1.852 | Α | 5745392-2 | 5745397-2 | 5745132-2 | | |
| | 25 | 53.04 | 47.04 | В | _ | _ | _ | | |

Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.

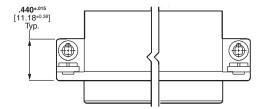
2. Recommended pc board thickness is .093 [2.36].

3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

HD-20 All-Plastic Right-Angle Posted Connectors 590 Mount

Receptacle—With Boardlocks



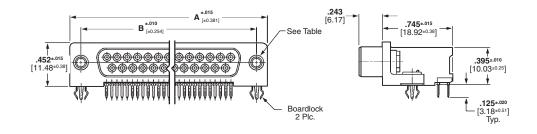




With Threaded Insert



With Fixed Female Screwlock



Material and Finish:

Housing—94V-0 rated thermoplastic,

Evelets—Brass, tin plated

Threaded Inserts—Zinc

Female Screwlock—Zinc

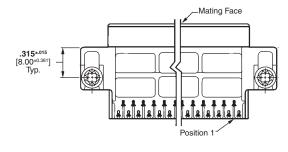
Boardlock—Copper alloy, tin plated

Socket Contacts (Posted)-

Phosphor bronze, duplex plated as follows:

A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated



Technical Documents:

Product Specification—108-1226 Application Specification— 114-40027

See customer drawings for printed circuit board layouts.

| | Shell Contact Dimensions Finish | | | Contact | Part N | umbers |
|------|---------------------------------|-----------------------|-----------------------|-------------------|---------------------|----------------------|
| | | | | With | With Fixed | |
| Size | Positions | Α | В | (Plating Code) | Threaded Inserts | Female Screwlocks |
| 1 | 9 | 1.213 30.81 | .984 24.99 | В | 5748907-2 | _ |
| 3 | 25 | 2.088 53.04 | 1.852 47.04 | Α | 5748909-1 | 5748989-1 |
| | | | | | | |

Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.

2. Recommended pc board thickness is .062 [1.58].

3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

Note: All part numbers are RoHS compliant.

.590 [14.99] Board Mount Footprint



HD-20 All-Plastic Right-Angle Posted Connectors 590 Mount (Continued)

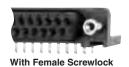
Post Size—.026 [0.66] Dia.

Receptacle—Without Boardlocks





With Threaded Insert



Material and Finish:

Housing—94V-0 rated thermoplastic, black

Threaded Inserts—Zinc, chromate coated

Female Screwlocks—Zinc, chromate

Socket Contacts (Posted)—Phosphor bronze, duplex plated as follows:

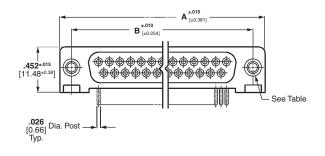
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

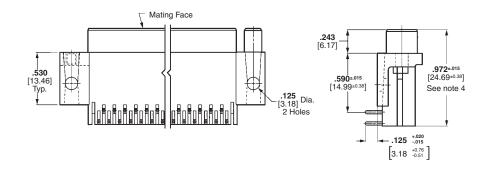
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 **Application Specification**— 114-40015

See customer drawings for printed circuit board layouts.





| | | | | Contact | | Part Numbers | | | |
|---------------|--------------------------------|--------------------|-----------------------|-----------------------------|-----------------------------|------------------------------------|--|--|--|
| Shell Size | No. of Contact Positions | Contact | | Finish (Plating Code) | With Threaded Inserts | With Fixed Female Screwlocks | With .125 [3.18] Mounting Holes | | |
| | | 1.213 | .984 | Α | 5747459-4 | 5747459-6 | 5747459-2 | | |
| 1 | 9 | 30.81 | 24.99 | В | 5747459-3 | 5747459-5 | 5747459-1 | | |
| 2 | 15 | 1.541 | 1.312 33.32 | Α | 5747460-4 | 5748948-1 | 5747460-2 | | |
| 2 | 15 | 39.14 | | В | 5747460-3 | 5747460-5 | 5747460-1 | | |
| | 0.5 | 2.088 | 1.852 | Α | 5747461-4 | 5747461-6 | 5747461-2 | | |
| 3 | 25 | 53.04 | 47.04 | В | 5747461-3 | 5747461-5 | 5747461-1 | | |
| 4 | 37 | 2.729 69.32 | 2.500 63.50 | Α | 5747462-4 | 5747462-6 | 5747462-2 | | |
| | 50 | 2.635 | 2.406 | Α | _ | _ | 5206973-1 | | |
| 5 | 50 | 66.93 | 61.11 | В | _ | _ | 5206973-2 | | |

- Notes: 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.
 - 2. Recommended pc board thickness is .093 [2.36] max.
 - 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
 - 4. Dimension is 1.120 [28.45] for size 5 d-subs.

HD-20 All-Plastic Right-Angle Posted Connectors 590 Mount (Continued)

Post Size—.026 [0.66] Dia.

Plug—Without Boardlocks







With Female Screwlocks

Material and Finish:

Housing—94V-0 rated thermoplastic,

Threaded Inserts—Zinc, chromate coated

Female Screwlocks—Zinc, chromate coated

Pin Contacts (Posted)—Brass, duplex plated as follows:

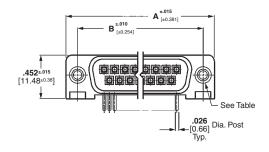
A—.000030 [0.00076] gold on mating end, tin on termination end, with entire contact nickel underplated

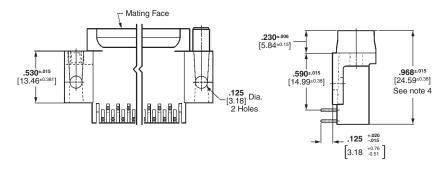
B—Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Technical Documents:

Product Specification—108-40025 Application Specification-114-40015

See customer drawings for printed circuit board layouts.





| Contact | | | | Part Numbers | | | |
|--------------------------------|------------------------------|---|--|---|--|--|--|
| No. of Contact Positions | Dimer | B B | Finish (Plating Code) | With Threaded Inserts | With Fixed Female Screwlocks | With .125 [3.18] Mounting Holes | |
| 0 | 1.213 | .984 | Α | 5747467-4 | _ | 5747467-2 | |
| 9 | 30.81 | 24.99 | В | _ | _ | 5747467-1 | |
| 15 | 1.541 39.14 | 1.312 33.32 | Α | 5748872-1 | 5748952-1 | 5747468-2 | |
| O.F. | 2.090 | 1.852 | Α | 5748873-1 | 5748953-1 | 5748826-1 | |
| 25 | 53.09 | 47.04 | В | _ | _ | 5748826-2 | |
| 37 | 2.729 69.32 | 2.500 63.50 | Α | _ | _ | 5747470-2 | |
| 50 | 2.635 | 2.406 | Α | _ | _ | 5206971-1 | |
| 50 | 66.93 | 61.11 | В | _ | _ | 5206971-2 | |
| | Contact Positions 9 15 25 | Contact Positions Differ 9 1.213 30.81 15 1.541 39.14 25 2.090 53.09 37 2.729 69.32 50 2.635 | Contact Positions A B 9 1.213 | Contact Positions A B Finish (Plating Code) 9 1.213 .984 A 9 30.81 24.99 B 15 1.541 1.312 A 39.14 33.32 A 25 2.090 1.852 A 53.09 47.04 B 37 2.729 2.500 A 69.32 63.50 A 50 2.635 2.406 A | No. of Contact Positions Dimensions Finish (Plating Code) With Threaded Inserts 9 1.213 .984 A 5747467-4 9 1.541 1.312 B — 15 1.541 1.312 A 5748872-1 25 2.090 1.852 A 5748873-1 37 2.729 2.500 A — 30 2.635 2.406 A — | No. of Contact Positions Dimensions A Contact Finish (Plating Code) With Threaded Inserts With Fixed Female Screwlocks 9 1.213 .984 A 5747467-4 — 15 1.541 1.312 A 5748872-1 5748952-1 25 2.090 1.852 A 5748873-1 5748953-1 37 2.729 2.500 A — — 30 69.32 63.50 A — — 50 2.635 2.406 A — — | |

Notes: 1. All plug connectors are preloaded with size 20 DF posted pin contacts.

- 2. Recommended pc board thickness is .093 [2.36] max.
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
- 4. Dimension is 1.115 [28.32] for size 5 d-subs, GPL244.



Right-Angle Mounting Connectors — European Standard Footprint



See customer drawings for latest dimensional details

Material and Finish:

Front Shell—Steel, tin plated Housing—Black glass-filled polyester Flammability—UL 94V-0 Contact Material—

Pin—Phosphor bronze

Socket—Phosphor bronze
Contact Area Plating—0.76µm Gold

Current Rating—6A max. Insulation Resistance— $5000 \text{ M}\Omega$ min.

Dielectric Strength—1000V AC min. **Temperature Rating**— -55°C to +105°C

Plug with Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|----------|--------------|-----------------|------------|---------------|
| 9 | 338168-2 | 1-338168-2 | 3-338168-2 | 2-338168-2 | 4-338168-2 |
| 15 | 338169-2 | 1-338169-2 | 3-338169-2 | 2-338169-2 | 4-338169-2 |
| 25 | 338170-2 | 1-338170-2 | 3-338170-2 | 2-338170-2 | 4-338170-2 |
| 37 | 338171-2 | 1-338171-2 | 3-338171-2 | 2-338171-2 | 4-338171-2 |

Socket with Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|----------|--------------|-----------------|------------|---------------|
| 9 | 106505-2 | 1-106505-2 | 3-106505-2 | 2-106505-2 | 4-106505-2 |
| 15 | 106506-2 | 1-106506-2 | 3-106506-2 | 2-106506-2 | 4-106506-2 |
| 25 | 106507-2 | 1-106507-2 | 3-106507-2 | 2-106507-2 | 4-106507-2 |
| 37 | 106508-2 | 1-106508-2 | 3-106508-2 | 2-106508-2 | 4-106508-2 |

Plug without Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|------------|--------------|-----------------|------------|---------------|
| 9 | 5-338168-2 | 6-338168-2 | 8-338168-2 | 7-338168-2 | 9-338168-2 |
| 15 | 5-338169-2 | 6-338169-2 | 8-338169-2 | 7-338169-2 | 9-338169-2 |
| 25 | 5-338170-2 | 6-338170-2 | 8-338170-2 | 7-338170-2 | 9-338170-2 |
| 37 | 5-338171-2 | 6-338171-2 | 8-338171-2 | 7-338171-2 | 9-338171-2 |

Socket without Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|------------|--------------|-----------------|------------|---------------|
| 9 | 5-106505-2 | 6-106505-2 | 8-106505-2 | 7-106505-2 | 9-106505-2 |
| 15 | 5-106506-2 | 6-106506-2 | 8-106506-2 | 7-106506-2 | 9-106506-2 |
| 25 | 5-106507-2 | 6-106507-2 | 8-106507-2 | 7-106507-2 | 9-106507-2 |
| 37 | 5-106508-2 | 6-106508-2 | 8-106508-2 | 7-106508-2 | 9-106508-2 |

Right-Angle Mounting Connectors — Eurostyle Footprint



See customer drawings for latest dimensional details

Material and Finish:

Front Shell—Steel, tin plated
Housing—Grey thermoplastic PBTP
Flammability—UL 94V-0
Contact Material—

Contact Material— Pin—Copper alloy Socket—Copper alloy

Contact Area Plating—Nickel/Gold (>250 mating cycles)

Current Rating—2.2A Insulation Resistance— $5000~\text{M}\Omega$ min.

Dielectric Strength—1000V AC **Temperature Rating**— -55°C to +125°C

Plug with Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|-------------|--------------|-----------------|-------------|---------------|
| 9 | 5-1393480-9 | 8-1393480-5 | 1393481-5 | 7-1393480-4 | 9-1393480-4 |
| 15 | 6-1393480-0 | 8-1393480-6 | 3-1392010-3 | 7-1393480-5 | 9-1393480-5 |
| 25 | On Enquiry | 8-1393480-7 | 1393481-6 | 7-1393480-6 | 9-1393480-6 |
| 37 | On Enquiry | 8-1393480-8 | 3-1392010-4 | 7-1393480-7 | On Enquiry |

Socket with Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|-------------|--------------|-----------------|-------------|---------------|
| 9 | 5-1393480-5 | 8-1393480-1 | 9-1393480-9 | 6-1393480-7 | 9-1393480-0 |
| 15 | 5-1393480-6 | 8-1393480-2 | 1393481-1 | 6-1393480-8 | 9-1393480-1 |
| 25 | 5-1393480-7 | 8-1393480-3 | 1393481-2 | 6-1393480-9 | 9-1393480-2 |
| 37 | On Enquiry | 8-1393480-4 | 3-1392010-7 | 7-1393480-0 | On Enquiry |

Plug without Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|-------------|--------------|-----------------|-------------|---------------|
| 9 | 2-1393480-1 | 4-1393480-0 | 5-1393480-2 | 3-1393480-2 | On Enquiry |
| 15 | 2-1393480-2 | 4-1393480-1 | 5-1393480-3 | 3-1393480-3 | On Enquiry |
| 25 | 2-1393480-3 | 4-1393480-2 | 5-1393480-4 | 2-1392010-8 | On Enquiry |
| 37 | 2-1393480-4 | 4-1393480-3 | 3-1392010-5 | 3-1392010-6 | On Enquiry |

Socket without Boardlocks — Solder Termination

| No of Contact Positions | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|----------------------------|-------------|--------------|-----------------|-------------|---------------|
| 9 | 1-1393480-7 | 3-1393480-6 | 4-1393480-7 | 2-1393480-8 | On Enquiry |
| 15 | 1-1393480-8 | 3-1393480-7 | 4-1393480-8 | 2-1393480-9 | On Enquiry |
| 25 | 1-1393480-9 | 3-1393480-8 | 4-1393480-9 | 3-1393480-0 | On Enquiry |
| 37 | 2-1393480-0 | 3-1393480-9 | 5-1393480-0 | 3-1392010-8 | On Enquiry |

Note: All part numbers are RoHS compliant.

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Press Fit Termination, Right-Angle Mounting — European Standard Footprint



Material and Finish:

Front Shell—Steel, tin plated **Housing**—Black thermoplastic PBTP/PPS

Flammability—UL 94V-0

Contact Material-

Pin—Copper alloy

Socket—Copper alloy

Contact Area Plating—Nickel/Gold (>250 mating cycles)

Current Rating—2.2A

Insulation Resistance— $5000 \text{ M}\Omega \text{ min.}$

Dielectric Strength—1000V AC

Temperature Rating-

-55°C to +125°C

Plug with Boardlocks — Press Fit Termination

| No of Ways | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|------------|----------|--------------|-----------------|-------------|---------------|
| 9 | _ | 3-1393481-2 | 3-1393481-8 | 2-1393481-5 | On Enquiry |
| 15 | _ | 3-1393481-3 | 3-1393481-9 | 2-1393481-6 | On Enquiry |
| 25 | _ | 3-1393481-4 | 2-1393497-7 | 2-1393481-7 | On Enquiry |
| 37 | _ | 2-1392010-7 | 4-1393481-0 | 2-1393481-8 | On Enquiry |

Socket with Boardlocks — Press Fit Termination

| No of Ways | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|------------|----------|--------------|-----------------|-------------|---------------|
| 9 | _ | 2-1393481-9 | 3-1393481-6 | 2-1393481-1 | On Enquiry |
| 15 | _ | 3-1393481-0 | 2-1393497-4 | 2-1393481-2 | On Enquiry |
| 25 | _ | 3-1393481-1 | 2-1393497-5 | 2-1393481-3 | On Enquiry |
| 37 | _ | 2-1392010-6 | 2-1393497-6 | 2-1393481-4 | On Enquiry |

Press Fit Termination, Right-Angle Mounting — Eurostyle Footprint



Material and Finish:

Front Shell—Steel, tin plated **Housing**—Black thermoplastic PBTP/PPS

Flammability—UL 94V-0

Contact Material-

Pin—Copper alloy

Socket—Copper alloy

Contact Area Plating—Nickel/Gold (>250 mating cycles)

Current Rating—2.2A

Insulation Resistance-

5000 $\text{M}\Omega$ min.

Dielectric Strength—1000V AC

Temperature Rating-

−55°C to +125°C

Plug with Boardlocks — Press Fit Termination

| No of Ways | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|------------|----------|--------------|-----------------|-------------|---------------|
| 9 | _ | On Enquiry | 3-1393482-0 | 1-1393482-4 | 2-1393482-1 |
| 15 | _ | On Enquiry | 3-1393482-2 | 3-1393497-0 | 4-1483489-2 |
| 25 | _ | On Enquiry | 3-1393482-4 | 1-1393482-5 | On Enquiry |
| 37 | _ | On Enquiry | 3-1393482-5 | 3-1393497-1 | On Enquiry |

Socket with Boardlocks — Press Fit Termination

| No of Ways | 3mm Hole | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|------------|----------|--------------|-----------------|-------------|---------------|
| 9 | _ | 1-1393482-6 | 2-1393482-2 | 1-1393482-2 | 2-1393482-0 |
| 15 | _ | 1-1393482-8 | 2-1393482-4 | 1-1393482-3 | On Enquiry |
| 25 | _ | 3-1392010-9 | 2-1393482-6 | 9-1393487-2 | On Enquiry |
| 37 | _ | 4-1392010-0 | 2-1393482-8 | 2-1393497-9 | On Enquiry |

Note: All part numbers are RoHS compliant.