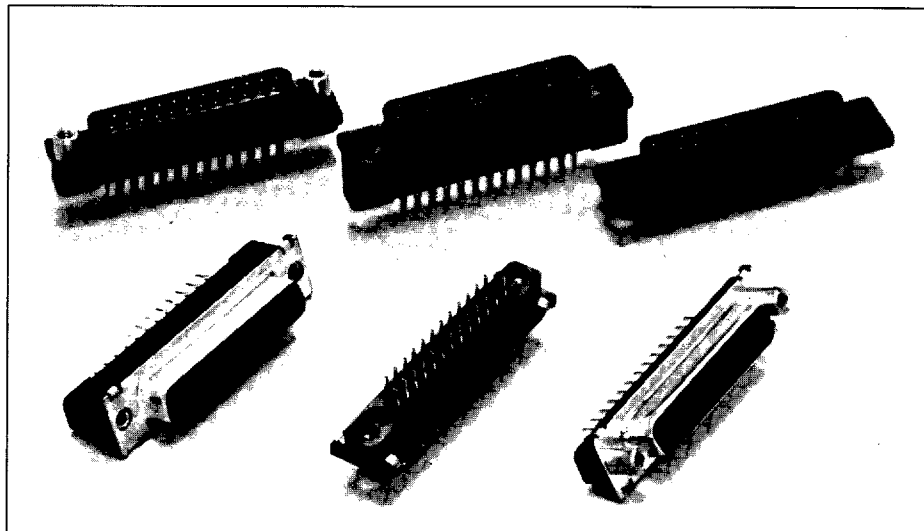


# VERTICAL RECEPTACLES

ALL PLASTIC AND METAL SHELL WITH COMPLIANT PIN OR SOLDER TERMINATIONS

## GENERAL DESCRIPTION

Designed as an input/output, board-to-board and inter-unit connector, Viking's 25-position Vertical D-Subminiature connector is available in high, medium and low profiles, all plastic or metal shell with solder tails for conventional applications or compliant pin contacts for solderless press-fit applications. Viking's unique Eye of the Needle design guarantees 40 lbs. max. insertion and 7 lbs. min. retention forces per contact in printed circuit boards with .062", .093" and .125" thicknesses. The compliant section provides solid mechanical and electrical bonds with minimal hole deformation.



## PRODUCT FEATURES

### DESIGN FLEXIBILITY

- Fully intermateable with any standard D-Subminiature plug (both plastic and metal shell)
- Generous lead-in and chamfered edges make these connectors ideal for blind mating application
- Suitable for use with .062", .093" and .125" thick P.C. boards
- Choices of metal shell or all-plastic bodies
- Compliant pin or solder tail

- Contacts can be selectively loaded
- 3 mounting options available
- Metal shell option provides E.M.I./R.F.I. shielding
- Low, medium and high profiles for between board space flexibility

### COST SAVERS

- Compliant pin version provides gas-tight connection without soldering

- Individual compliant pins can be replaced easily
- Short lead time on deliveries reduces inventory costs

### RUGGED CONSTRUCTION

- Metal shell is cold-rolled steel
- Insulator is high-quality, U.L. 94V-0 approved, flame-retardant thermoplastic
- Phosphor bronze contacts
- U.L. listed

## ORDERING INFORMATION

4	Z	3	C	1
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SERIES ORDER CODE: \_\_\_\_\_

### ALL PLASTIC

- 2:** Low Profile
- 4:** High Profile
- 6:** Medium Profile

### METAL SHELL

- 1:** Low Profile
- 3:** High Profile
- 5:** Medium Profile

CONTACT PLATING CODE: \_\_\_\_\_

- Z:** .000030 selective gold plating over nickel

MOUNTING STYLE CODE: \_\_\_\_\_

- 1:** Thru Hole
- 5:** Threaded Insert
- 9:** Round Standoff

CONTACT TERMINATION: \_\_\_\_\_

- C:** Compliant Pin
- S:** Dip Solder  
.125(3.18) long
- L:** Dip Solder  
.170(4.32) long

NUMBER OF CONTACTS CODE: \_\_\_\_\_

- 3:** 25 position

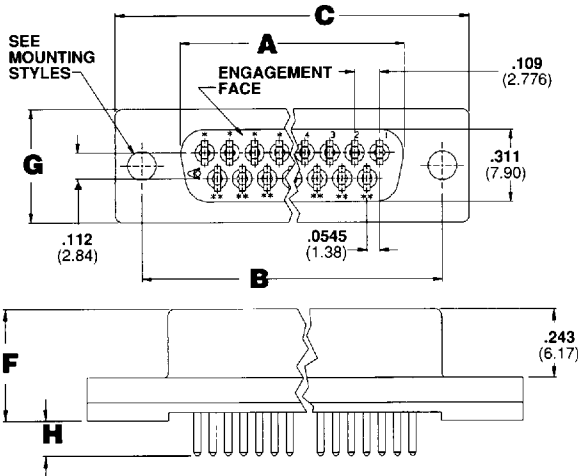
# VERTICAL RECEPTACLES

ALL PLASTIC AND METAL SHELL WITH COMPLIANT PIN OR SOLDER TERMINATIONS

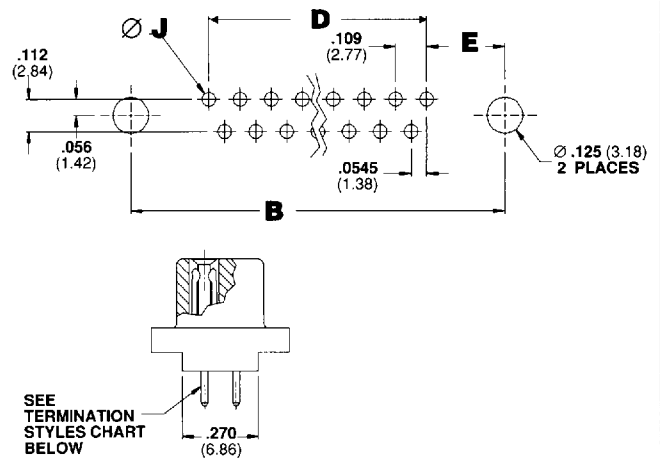
## DESIGN INFORMATION

ALL PLASTIC AND METAL SHELL: Low, Medium & High Profiles

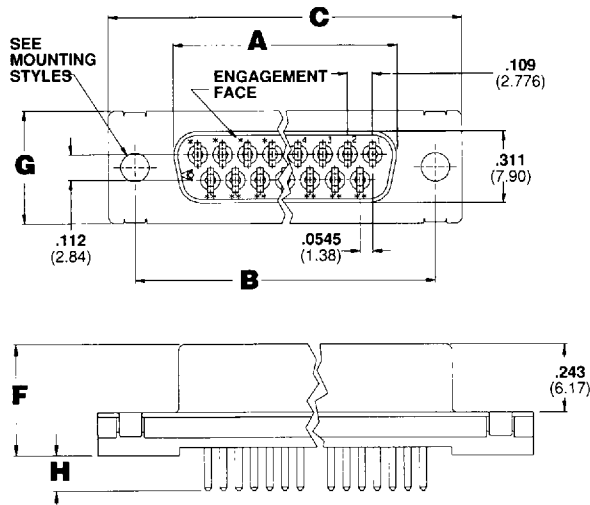
### ALL PLASTIC RECEPTACLES



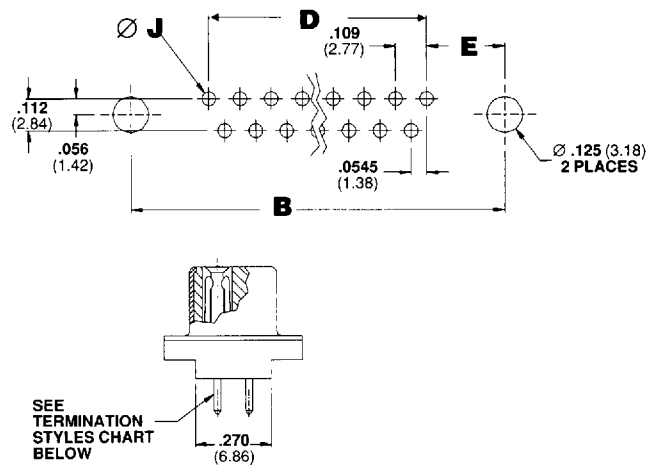
### RECOMMENDED P.C.B. HOLE PATTERN



### METAL SHELL RECEPTACLES



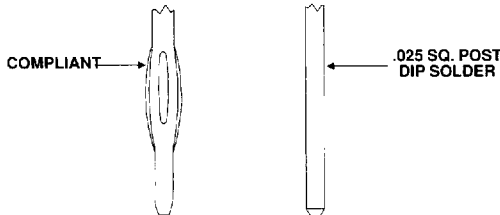
### RECOMMENDED P.C.B. HOLE PATTERN



### TERMINATION STYLES

ORDER CODE	TERMINATION TYPE	H ±.020 (0.51)	J ±.003 (0.08)
C	Compliant	.206 (5.23)	.040 (1.02)
S	Dip Solder	.125 (3.18)	.048 (1.22)
L	Dip Solder	.170 (4.32)	.048 (1.22)

### TERMINATION CONFIGURATIONS



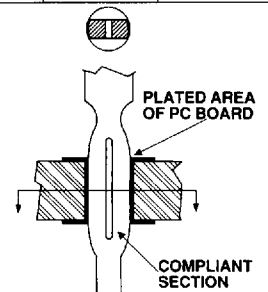
### VERTICAL D-SUBMINIATURE CONNECTOR DIMENSIONS

NO. OF CONTACTS	PROFILE TYPE	A	B	C	D	E	F	G
25	Low	1.511 (38.38)	1.852 (47.04)	2.086 (52.83)	1.308 (33.22)	.272 (6.91)	.395 (10.03)	.490 (12.45)
	Medium	1.511 (38.38)	1.852 (47.04)	2.086 (52.83)	1.308 (33.22)	.272 (6.91)	.479 (12.17)	.490 (12.45)
	High	1.511 (38.38)	1.852 (47.04)	2.086 (52.83)	1.308 (33.22)	.272 (6.91)	.695 (17.65)	.410 (10.41)

### COMPLIANT PIN: EYE OF THE NEEDLE DESIGN

The Eye of the Needle contact design has been tested and accepted for all military and commercial applications. When inserted into a .040" ± .003" thru-hole, the compliant section provides a gas tight connection without stressing the hole. It can be used

effectively in .062", .093" and .125" thick printed circuit boards. Contacts can be individually replaced without removing the entire connector. The seven pound minimum retention force of each contact eliminates any need for hold down hardware.



NOTE: Dimensions are in inches and (millimeters). Tolerance ± .010 (.25) unless otherwise specified.

# VERTICAL RECEPTACLES

ALL PLASTIC AND METAL SHELL WITH COMPLIANT PIN OR SOLDER TERMINATIONS

## SPECIFICATIONS

### ELECTRICAL

**Current Rating:** 5 amps max.  
**Insulation Resistance:**  
5000 megohms min.  
**Contact Resistance:**  
10 milliohms max., mated  
**Dielectric Withstanding Voltage:**  
1000 VAC at sea level

### MECHANICAL

**Contact Retention:** 3 lbs. min.  
**Durability:**  
(Mating and unmating): 500 cycles  
**Ambient Temperature Range:**  
-67°F to +257°F (-55° C to +125° C)

### ENGAGEMENT & SEPARATION FORCES

**Insertion:** 12 oz. max. per contact  
**Withdrawal:** 0.7 oz. min. per contact

### MATERIALS AND FINISHES

#### INSULATOR:

Glass-filled thermoplastic, U.L. 94V-0;  
Color: black

#### CONTACT: Copper Alloy

#### CONTACT FINISH:

**Underplate:**  
Nickel all over (.000050 min. thick)  
**Engagement Area:**  
CODE Z: .000030 gold  
**Termination Area:** .000150 min. thick  
tin-lead.

#### CONNECTOR SHELL:

Cold-rolled steel, zinc chromate finish

#### MOUNTING HARDWARE:

Brass, nickel plated

### APPROVALS, CERTIFICATIONS

#### U.L.

All D-Subminiature connectors are listed under the component program of Underwriters Laboratories, Inc., File E 74125.

Specifications contained herein are subject to change without notice. Consult Viking for current data.

## PRODUCT OPTIONS

### ALL PLASTIC CONFIGURATION

**ORDER CODE 2:** Low Profile, All Plastic  
**ORDER CODE 4:** High Profile, All Plastic  
**ORDER CODE 6:** Medium Profile, All Plastic

### METAL SHELL CONFIGURATION

**ORDER CODE 1:** Low Profile, Metal Shell  
**ORDER CODE 3:** High Profile, Metal Shell  
**ORDER CODE 5:** Medium Profile, Metal Shell

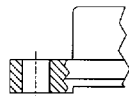
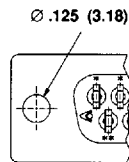
### CONTACT TERMINATION STYLE

**ORDER CODE C:** Compliant Pin .206 (.051) long  
**ORDER CODE S:** Dip Solder .125 (5.23) long  
**ORDER CODE L:** Dip Solder .170 (4.32) long

## MOUNTING STYLES:

Viking offers three mounting styles: Code 1, Thru Hole; Code 5, 4-40 UNC-2B threaded insert; Code 9, 4-40 UNC-2B Round Stand-off. Key performance characteristics include 15 lbs. minimum axial force and torque retention of 6 inch-pounds.

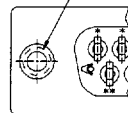
**THRU HOLE**  
**ORDER CODE:**  
1



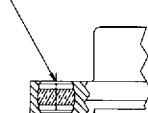
**THREADED INSERT**

**ORDER CODE:**  
5

4-40 UNC-2B



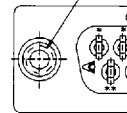
THREADED INSERT



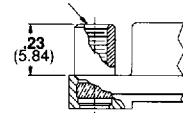
**ROUND STAND-OFF**

**ORDER CODE:**  
9

4-40 UNC-2B



ROUND STAND-OFF

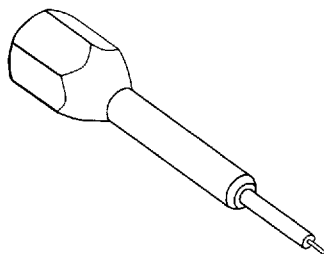


## TOOLING (Compliant Pin Only)

### CONTACT INSERTION/EXTRACTION TOOL:

**PART NUMBER:**  
000407-0624

The insertion/extraction tool for removal and replacement of individual contacts allows the operator an easy procedure in performing both functions.



### CONNECTOR INSTALLATION TOOL:

**PART NUMBER:**  
000407-0619

The installation tooling may be used on any Arbor press. It adapts well to any flat-surfaced insertion pushrod and guarantees a stable and perpendicular entry into the P.C. Board.

