

**D\*M — 90° Solder Termination (Machined) — Standard Footprint .318♦ or .283 inch♦♦**



See pages 16-17.

D\*M 90° PCB connectors, equivalent to MIL-C-24308 qualified versions (except for finishes), for use with printed circuit boards in demanding applications. Additional contact lengths, hardware and finish options available; consult factory for details.

**Product Features**

- 7.5 A current capacity
- Machined contacts
- Two contact finishes
- Metal bracket with threaded insert standard
- Optional screw locks and boardlocks
- UL file number E8572
- Dimensionally compatible with Combo D®

**ZED\* — 90° Solder Termination (Stamped) — Standard Footprint .318 inch♦**



See pages 18-19.

ZED\* 90° connectors are available for applications where price is the primary driver. They are available with integrated plastic brackets with Standard footprints.

**Product Features**

- Stamped contacts with 5 A current capacity
- Economical
- Plastic bracket with integrated boardlocks and grounding strap
- Optional screw locks

**D\* — 90° Solder Termination (Machined) — European Footprint 10,2♦ or 9,4 mm♦♦**



See pages 20-27.

D\* 90° connectors are available for high performance uses according to DIN 41652. Available with European footprint 1AON contacts, plastic and metal brackets, #4-40 or M3 threads and stamped pushfits/boardlocks. Contact finish available in 2 performance classes.

**Product Features**

- High performance commercial class connectors
- Two contact performance classes
- Optional metal and plastic brackets, threaded standoffs, clinch nuts, and stamped pushfits/boardlocks
- Tin plated contact PC tails (pin & socket)

**ZD\* — 90° Solder Termination (Stamped) — European Footprint 10,2 mm♦**



See pages 28-29.

ZD\* 90° connectors are available for applications where price is the primary driver. They are available with integrated plastic brackets with European footprints.

**Product Features**

- Stamped contacts with 5 A current capacity
- Economical
- Plastic bracket with integrated boardlocks and grounding strap
- Optional screw locks

♦ Connector footprint measured from the front shell.  
 ♦♦ Connector footprint measured from the rear shell.

**Specifications**

Temperature Rating	-55°C to 125°C
Current Rating	7.5 A
Contact Resistance	55 millivolt max. at 7.5 A test current
Dielectric Withstanding Voltage	1000 VAC at Sea Level

**Materials and Finishes**

Description	Material	Finish
Shell	Steel	Tin
Insulator	Thermoplastic, UL 94V-0	None (Color: dark green)
Pin Contact	Copper Alloy	Gold over Nickel
Socket Contact	Copper Alloy	Gold over Nickel in mating area, Tin on balance
Hardware (except Boardlocks)	Steel	Tin
Boardlocks	Copper Alloy	Tin

**Specifications**

Temperature Rating	-55°C to 105°C
Current Rating	5 A
Contact Resistance	15 mΩ
Dielectric Withstanding Voltage	1000 VAC at Sea Level

**Materials and Finishes**

Description	Material	Finish
Shell	Steel	Tin
Insulator	Thermoplastic, UL 94V-0	None
Contacts	Copper Alloy	Gold over Nickel in mating area, Tin on balance

**Specifications**

Temperature Rating	-55°C to +125°C
Current Rating	5 A
Contact Resistance	10 mΩ
Dielectric Withstanding Voltage	1250 VAC at Sea Level

**Materials and Finishes**

Description	Material	Finish
Shell	Steel	Tin
Insulator	Thermoplastic, UL 94V-0	None (Color: dark green)
Contacts	Copper Alloy	Gold over Nickel in mating area, Tin on balance
Hardware	Steel or Plastic	Tin or None
Boardlocks	Copper Alloy	Tin

**Specifications**

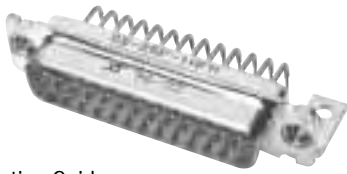
Temperature Rating	-55°C to 105°C
Current Rating	5 A
Contact Resistance	15 mΩ
Dielectric Withstanding Voltage	1000 VAC at Sea Level

**Materials and Finishes**

Description	Material	Finish
Shell	Steel	Tin
Insulator	Thermoplastic, UL 94V-0	None
Contacts	Copper Alloy	Gold over Nickel in mating area, Tin on balance

90° Solder Termination (Machined) with Metal Bracket — European Footprint 10,2♦ or 9,4♦♦ mm

Plug



Part Numbers

Shell Size	Layout	Bushing with Through Hole	Captive Nut #4-40 UNC	Captive Nut M3	Post #4-40 UNC
DE	9	DE9P-1AFN-K87	DE9P-1A7N-K87	DE9P-1A9N-K87	DE9P-1A8N-K87
DA	15	DA15P-1AFN-K87	DA15P-1A7N-K87	DA15P-1A9N-K87	DA15P-1A8N-K87
DB	25	DB25P-1AFN-K87	DB25P-1A7N-K87	DB25P-1A9N-K87	DB25P-1A8N-K87
DC	37	DC37P-1AFN-K87	DC37P-1A7N-K87	DC37P-1A9N-K87	DC37P-1A8N-K87
DD	50	DD50P-1AFN-K87	DD50P-1A7N-K87	DD50P-1A9N-K87	DD50P-1A8N-K87

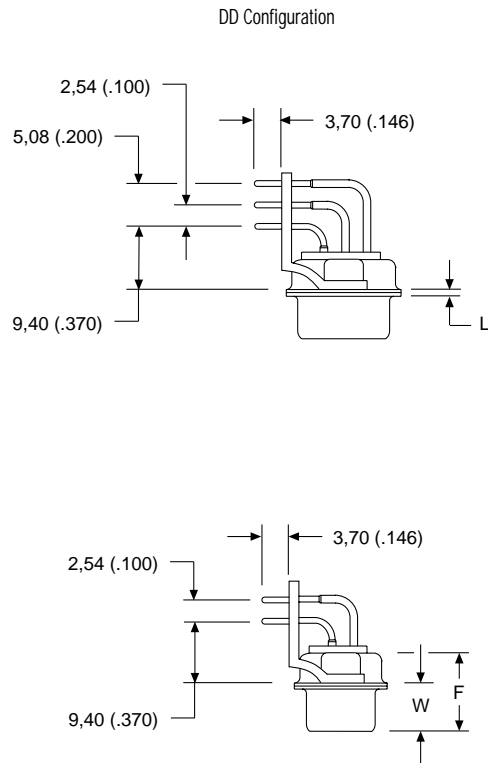
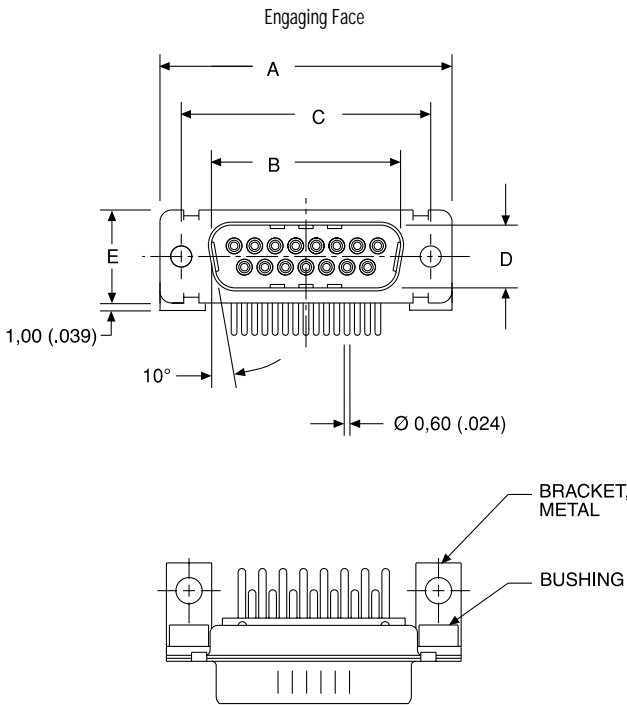
Selection Guide

For Product Features, Specifications, Materials and Finishes, see pages 14-15.

Notes: For pushfit/boardlock option add -146. Example: DE9P-1AFN-K87-146  
For performance class 2 add -A191. Example: DE9P-1AFN-A191-K87

Reader's Resource

For contact cavity arrangements, see page 224.  
For P.C. hole patterns, see page 273.  
For panel cutouts, see page 221.  
For hardware views (European), see page 227.



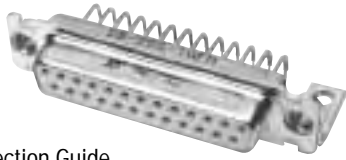
Dimensions

Shell Size	A ±0,38 (.015)	B ±0,13 (.005)	C ±0,13 (.005)	D ±0,13 (.005)	E ±0,38 (.015)	F ±0,25 (.010)	W ±0,368 (.0145)	W ±0,41 (.016)	L ±0,25 (.010)
DE	30,81 (1.213)	16,92 (.666)	24,99 (.984)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DA	39,14 (1.541)	25,25 (.994)	33,32 (1.312)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DB	53,04 (2.088)	38,96 (1.534)	47,04 (1.852)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)
DC	69,32 (2.729)	55,42 (2.182)	63,50 (2.500)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)
DD	66,93 (2.635)	52,81 (2.079)	61,11 (2.406)	11,07 (.436)	15,37 (.605)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)

♦ Connector footprint measured from the front shell.  
♦♦ Connector footprint measured from the rear shell.

## 90° Solder Termination (Machined) with Metal Bracket — European Footprint 10,2♦ or 9,4♦♦ mm

### Receptacle



### Selection Guide

For Product Features, Specifications, Materials and Finishes, see pages 14-15.

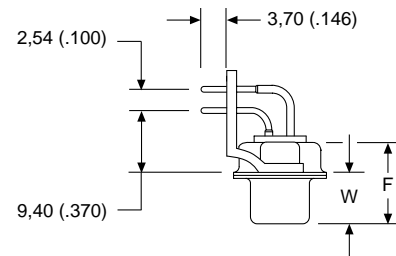
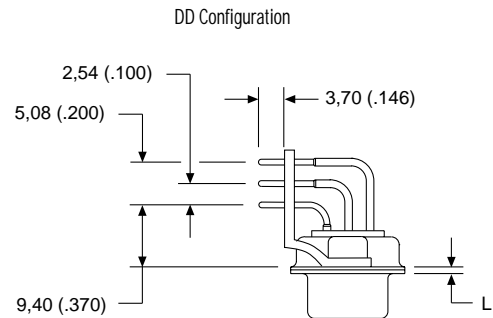
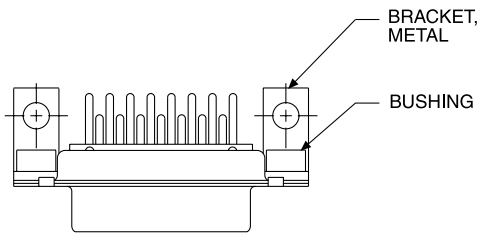
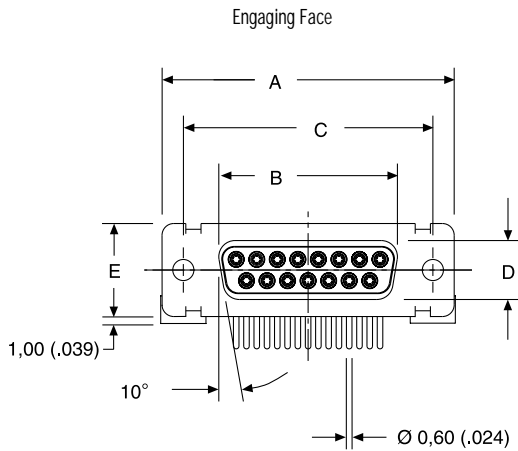
### Reader's Resource

For contact cavity arrangements, see page 224.  
 For P.C. hole patterns, see page 273.  
 For panel cutouts, see page 221.  
 For hardware views (European), see page 227.

### Part Numbers

Shell Size	Layout	Bushing with Through Hole	Captive Nut #4-40 UNC	Captive Nut M3	Post #4-40 UNC
DE	9	DE9S-1AFN-A197	DE9S-1A7N-A197	DE9S-1A9N-A197	DE9S-1A8N-A197
DA	15	DA15S-1AFN-A197	DA15S-1A7N-A197	DA15S-1A9N-A197	DA15S-1A8N-A197
DB	25	DB25S-1AFN-A197	DB25S-1A7N-A197	DB25S-1A9N-A197	DB25S-1A8N-A197
DC	37	DC37S-1AFN-A197	DC37S-1A7N-A197	DC37S-1A9N-A197	DC37S-1A8N-A197
DD	50	DD50S-1AFN-A197	DD50S-1A7N-A197	DD50S-1A9N-A197	DD50S-1A8N-A197

Notes: For pushfit/boardlock option add -146. Example: DE9S-1AFN-A197-146  
 For performance class 2 add -A191. Example: DE9S-1AFN-A191-A197



### Dimensions

Shell Size	A	B	C	D	E	F	W	L
	±0,38 (.015)	±0,13 (.005)	±0,13 (.005)	±0,13 (.005)	±0,38 (.015)	±0,25 (.010)	±0,38 (.015)	±0,25 (.010)
DE	30,81 (1.213)	16,33 (.643)	24,99 (.984)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0,76 (.030)
DA	39,14 (1.541)	24,66 (.971)	33,32 (1.312)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0,76 (.030)
DB	53,04 (2.088)	38,38 (1.511)	47,04 (1.852)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0,76 (.030)
DC	69,32 (2.729)	54,84 (2.159)	63,50 (2.500)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0,76 (.030)
DD	66,93 (2.635)	52,42 (2.064)	61,11 (2.406)	10,74 (.423)	15,37 (.605)	10,90 (.429)	6,94 (.273)	0,76 (.030)

- ♦ Connector footprint measured from the front shell.
- ♦♦ Connector footprint measured from the rear shell.