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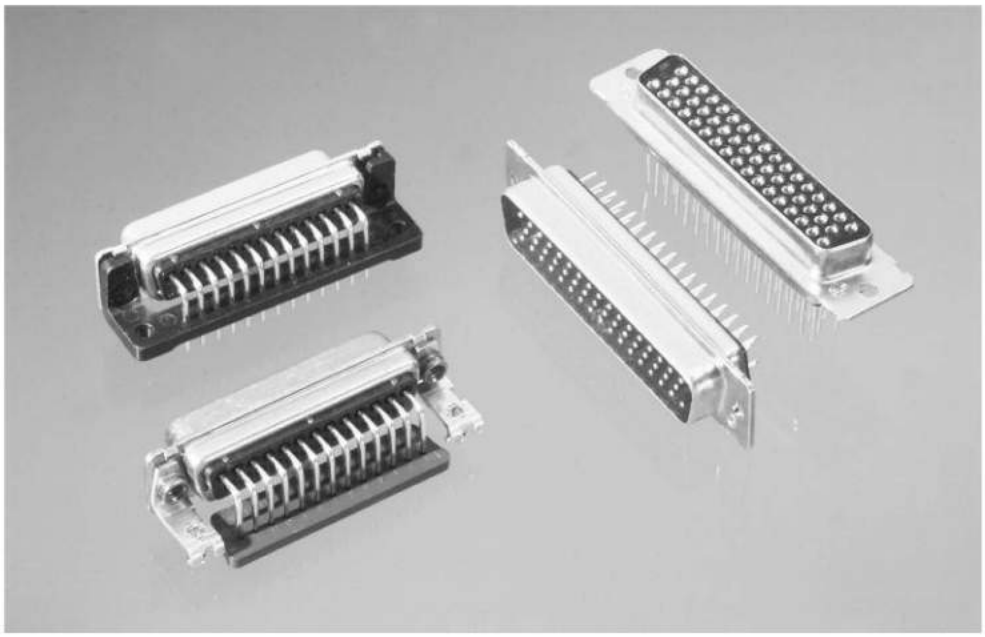
AMPLIMITE Subminiature Connectors

Introduction

Product Facts

- **Military qualified connectors conform to the latest amendments of MIL-DTL-24308**
- **Industrial versions available that use the same manufacturing process of MIL-C-24308 connectors**
- **Non-magnetic versions available per NASA spec, or with rubber grommet on rear of NASA-type connector**
- **ULTRA-LITE AMPLIMITE non-magnetic connectors save weight and improve EMI shielding vs. brass shell NASA-style connectors**
- **AS39029 contacts offer reliability and economies of high speed termination by automatic machine**
- **Connector savers (feed-through) preserve permanently mounted connectors in high use applications**
- **Choice of sizes — Size 1 through 5 for Series 109, standard density with 9, 15, 25, 37 and 50 contacts; Size 1 through 6 for Series 90, high density with 15, 26, 44, 62, 78 and 104 contacts**
- **Series 109 standard density connectors are available with cavities for power or coaxial contacts mixed with size 20 signal contacts**
- **Right-angle and straight PC board connectors in Series 109, standard density**
- **Preloaded, straight-posted connectors available in Series 90, high density**
- **Preloaded, solder cup connectors available in Series 109, standard density**
- **Produced under a Quality Management System certified to ISO 9001**

A copy of the certificate is available upon request



AMPLIMITE Military Subminiature D Connectors are compact pin and socket connectors especially designed for high density packages. They are ideally suited for applications such as military equipment, ground support devices, computer peripheral equipment, modems and industrial instrumentation.

In addition to the complete selection of standard military subminiature D-type connectors, TE Connectivity offers special application versions such as connectors which mix power/coax cavities with size 20 signal contacts; feed-through connectors which provide a disposable interface for high use applications; and special non-magnetic connectors with a rubber grommet on the rear, for strain relief.

Series 109 and Series 90 military connectors conform to the latest amendments of the MIL-DTL-24308 specification and thus are intermateable with similar connectors in the same sizes from other manufacturers. A broad range of connectors is included in this catalog, complemented by a variety of commercial cable clamps and mating hardware, which can be found in catalog 1307612.

Each AMPLIMITE crimp connector has metal clips which retain the pins and sockets after they are loaded into the inserts from the rear.

Series 109 connectors accept size 20 contacts, while Series 90 connectors accept size 22 contacts. Cavity spacing conforms to military specifications.

Size 20 and size 22 pins and sockets are designed for an 8-indent crimp. They are supplied loose-piece for crimping in a standard M22520/2 hand operated tool or tape-mounted for high speed application by an AMP-TAPEMATIC Stripper/Crimper Machine.

Series 90 and Series 109 connectors preloaded with contacts are available for printed circuit board mounting.

Special Series 109 connectors with power/coax cavities accept power contacts for 18 through 8 AWG [0.8-8 mm^2] wire or coaxial contacts for RG/U 174, 188A and 316 cable, in combination with standard size 20 signal contacts.

A complete range of non-military AMPLIMITE subminiature D connectors, contacts and accessories are shown in catalog 1307612, available on request from TE.

Catalog 1308940
Revised 9-14

www.te.com

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

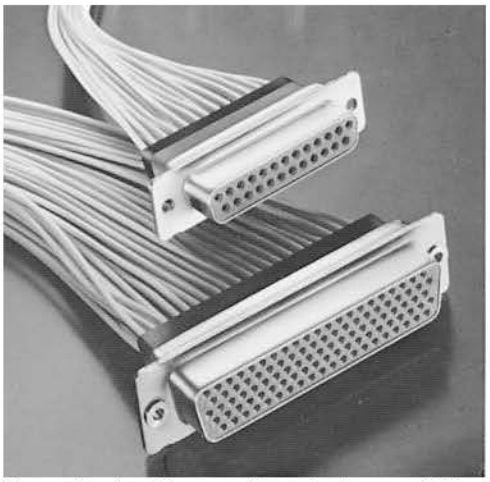
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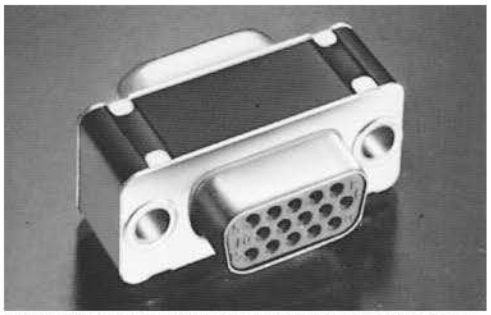
For additional support numbers please visit www.te.com

AMPLIMITE Subminiature Connectors (Continued)

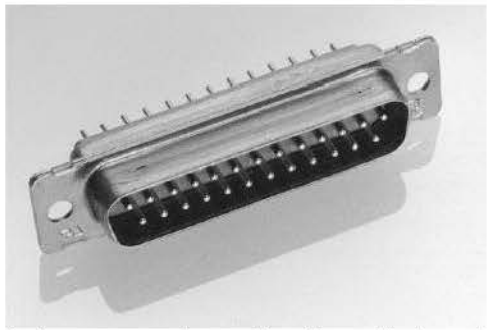
Introduction (Continued)



Connectors for crimp, snap-in contacts are available in both series, standard shells and non-magnetic, plus non-magnetic with rear rubber grommet.



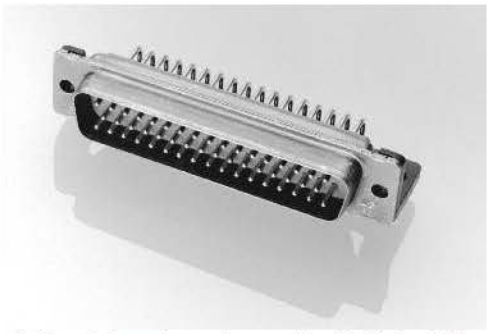
Connector savers extend life in high-use applications.



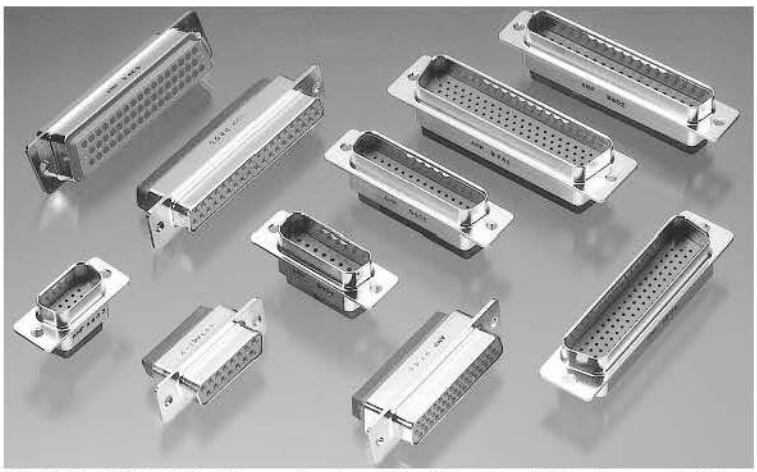
Straight posted versions available in both (Series 109) standard density and (Series 90) high density connectors.



Coax or power contacts can be mixed with signal contacts.



Right-angle board mount connectors for Series 109, standard density connections.



ULTRA-LITE AMPLIMITE Connectors for state-of-the-art weight savings and EMI performance.

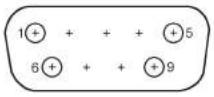


The Series 109 and 90 Blindmate Plug connectors are designed to prevent butting of contacts during mating.

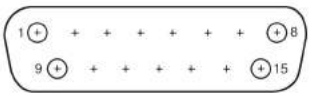
AMPLIMITE Connectors, Series 109

Series 109 Connectors (Standard Density)

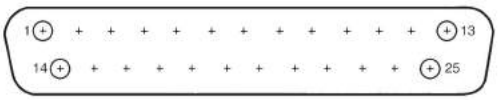
Insert Arrangements



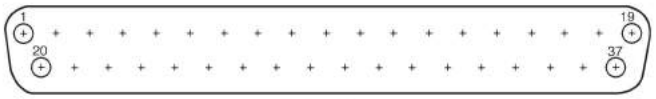
9 Position
(Shell Size 1)
MS 18273-1



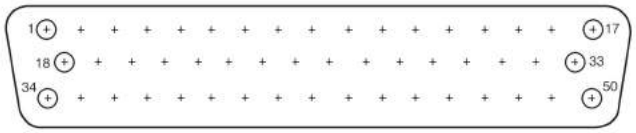
15 Position
(Shell Size 2)
MS 18274-1



25 Position
(Shell Size 3)
MS 18275-1



37 Position
(Shell Size 4)
MS 18276-1



50 Position
(Shell Size 5)
MS 18277-1

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

Performance Specifications

All Series 109 AMPLIMITE military connectors conform to the latest amendments of military specification MIL-DTL-24308. For more detailed information refer to MIL-DTL-24308.

All Series 109 Connectors are designed for a –67°F to 257°F [–55°C to +125°C] temperature range.

Series 109 contact current rating for Crimp Snap Connectors for MIL-C-39029 7.5 amps in free air.

Series 109 contact current rating for PCB Mount Connectors 5.0 amps per 108-1770.

Technical Documents List

The following technical documents cover the application and performance of AMPLIMITE Series 109 Connectors, contacts, tooling and accessories.

Military Specifications

MIL-DTL-24308	Connectors, Electric, Rectangular, Miniature Polarized Shell, Rack and Panel, General Specifications for
AS39029	Contacts, Electrical Connector, General Specification for

NASA Specification

GSFC-S-311-P-4	Non-Magnetic Connectors, General Specification for

Instruction Sheets

408-7516	Application Tooling for MIL-C-39029 Contacts
408-7634	Application and Maintenance for Hand Crimping Tool 90302-1
408-7694-1	Application and Maintenance for Hand Crimping Tool 90312-1
408-7954	Application and Maintenance for Hand Crimping Tool 90374-1
408-7508	Insertion/Extraction Tools 91067-1, 91067-2 and 91067-3
408-7837	Female Screwlock Kit 205817-1 and Male Screw/Retainer Kit 211883-5

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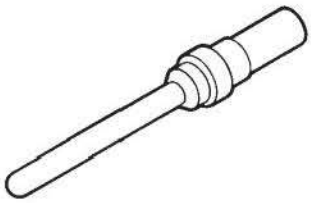
AMPLIMITE Connectors, Series 109 (Continued)

Size 20 Crimp Contacts for Series 109 Connectors (AS39029)

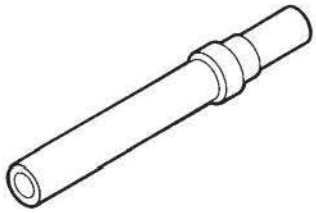
Size 20 Crimp, Snap-In Contacts .040 [1.02] Pin Diameter

Material and Finish

Pin and Socket Body —
[a]**Contact Body** — Copper alloy, gold flash .000050–.000100 [0.00127–0.00254] thick nickel underplate.
[a]**Mating Area** — Copper alloy, plated gold .000050 min thick over .000050–.000100 [0.00127–0.00254] thick nickel underplate.
[b]**Contact Body & Mating Area** — Copper alloy, plated gold .000050–.000100 [0.00127–0.00254] thick over .000050–.000100 [0.00127–0.00254] thick nickel underplate.
Socket Hood — Passivated stainless steel.



Pin
M39029/64-369
(Supersedes M24308/11-1)



Socket
M39029/63-368
(Supersedes M24308/10-1)

Wire Size Range AWG	Wire Size Range [mm²]	Ins. Dia. (Max.)	Contact Configuration	Tape Mounted Contacts Part Number	Loose Piece Contacts Military Part No. (M39029/)	Loose Piece Contacts AMP Part No.	Hand Tool Tool No. (M22520/)	Hand Tool Positioner No. (M22520/)	Contact Color Band
20-24	0.6-0.2	.072 1.83	Pin	205089-2[a]	64-369	205089-1[a]	02-01	02-08	orange, blue, white
			Socket	205090-2[a]	63-368	205090-1[a]	02-01	02-08	orange, blue, gray
20-24	0.6-0.2	.072 1.83	Pin	1-205089-3[b]	64-369	1-205089-2[b]	02-01	02-08	orange, blue, white
			Socket	1-205090-0[b]	63-368	205090-9[b]	02-01	02-08	orange, blue, gray

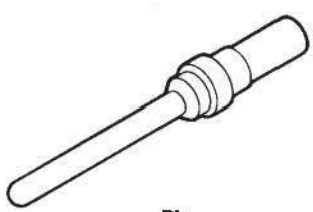
Tape mounted contacts are used in the AMP-TAPEMATIC Stripper/Crimper Machine Part Number **599406-7** (page 8-89).
Notes: 1. These contacts are used in Series 109 military connectors.
2. Insertion/Extraction Tool Part Number **91067-2** (Military Part Number **M81969/1-02**) is used to install and remove pin and socket contacts.
3. See Instruction Sheet 408-7516 for wire length, tool and selector settings.
4. Color bands are read in the direction of terminal (wire barrel) end to mating end.

Size 20 Crimp Contacts for Series 109 Connectors (Industrial Grade)

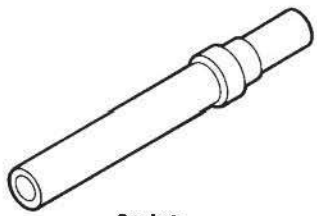
Size 20 Crimp, Snap-In Contacts .040 [1.02] Pin Diameter

Material and Finish

Pin and Socket Body —
Pin Body — Brass, plated gold .000030 [0.00076] min thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate.
Socket Body — Brass, plated gold .000010 [0.00025] min thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate.
Socket Clip — Copper alloy, plated gold .000050 [0.00013] min thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate.



Pin



Socket

Wire Size Range AWG	Wire Size Range [mm²]	Ins. Dia. (Max.)	Contact Configuration	Tape Mounted Contacts Part Number	Loose Piece Contacts Part Number	Hand Tool Tool No. (M22520/)	Hand Tool Positioner No. (M22520/)
20-24	0.6-0.2	.072 1.83	Pin	1218266-4	1218266-3	02-01	02-08
			Socket	1218267-4	1218267-3	02-01	02-08
18	0.8	.083 2.11	Pin	1218266-2	1218266-1	02-01	02-08
			Socket	1218267-2	1218267-1	02-01	02-08

Tape mounted contacts are used in the AMP-TAPEMATIC Stripper/Crimper Machine Part Number **599406-7** (page 8-89).
Notes: 1. These contacts are used in Series 109 connectors.
2. Insertion/Extraction Tool Part Number **91067-2** (Military Part Number **M81969/1-02**) is used to install and remove pin and socket contacts.
3. See Instruction Sheet 408-7516 for wire length, tool and selector settings.

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AMPLIMITE Connectors, Series 109 (Continued)

Size 20 Posted Contacts for Series 109 Connectors

Material and Finish

Pin and Socket Body —
Leaded nickel copper or beryllium copper, plated per chart below

Socket Hood —
See chart below



Pin and Socket Insertion/Extraction Tool

AMP Part Number 91067-2 or
MIL Number M81969/1-02

Insertion tip, for replacement
Part Number 126195-3

Extraction tip, for replacement
Part Number 126195-4

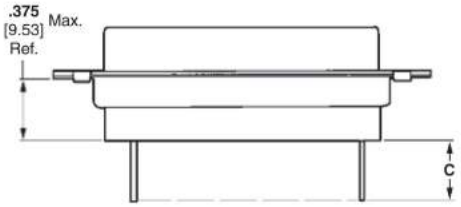
Notes:
1. Contacts on this page can be used with connectors on pages 8-43 to 8-48, 8-62, 8-63 and 8-84.
2. Mating End of pin and socket complies with MIL-C-39029.
3. See page 8-91 for PCB layouts.



Pin
(See Drawing Number 212565 for Latest Configuration)



Socket
(See Drawing Number 208778 for Latest Configuration)



Post Extension When Used in a Standard Connector

Post Diameter ± .002 [± .050]	Post Extension C ± .025 [± 0.63]	Part Numbers Pin	Part Numbers Socket	Contact Plating	Socket Hood Material and Finish
.018 0.46	**.325** 8.25	1-212565-0	1-208778-0	Gold .000050–.000100 [0.00127–0.00254] thick over .000150–.000250 [0.00381–0.00635] thick copper underplate	Passivated Stainless Steel
.018 0.46	**.325** 8.25	—	1-208778-1	Gold .000050–.000100 [0.00127–0.00254] thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate	Passivated Stainless Steel
.018 0.46	**.240** 6.10	—	1-208778-2	Gold .000050–.000100 [0.00127–0.00254] thick over .000150–.000250 [0.00381–0.00635] thick copper underplate	Passivated Stainless Steel

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AMPLIMITE Connectors, Series 109 (Continued)

Size 20 Posted Contacts for Series 109 Connectors (High Current Upgrade Program)

The High Current Size 20 contact has been designed to fit into the Series 109 AMPLIMITE Connectors per MIL-C-24308.

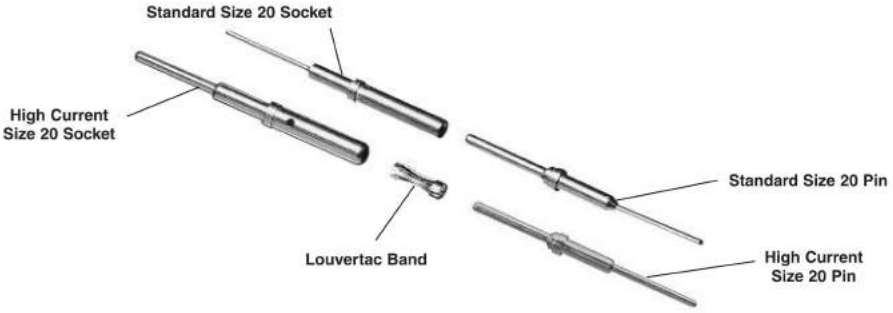
Material

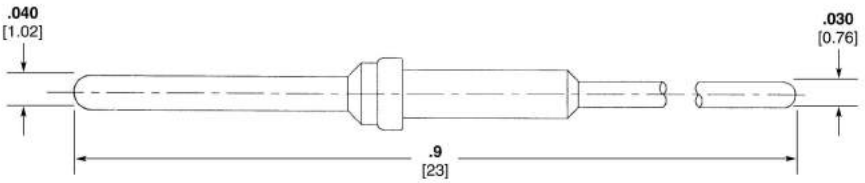
Body — Copper Alloy
Louvertac Band — Beryllium Copper

Finish

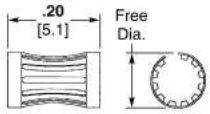
Body — Gold
Louvertac Band — Gold

Current-Carrying Capacity. The High Current Size 20 contact with a 20 gage wire attached to the .030 [.762] diameter solder tail acquired an initial 86°F [30°C] T-Rise of 11.85 amps in free air.

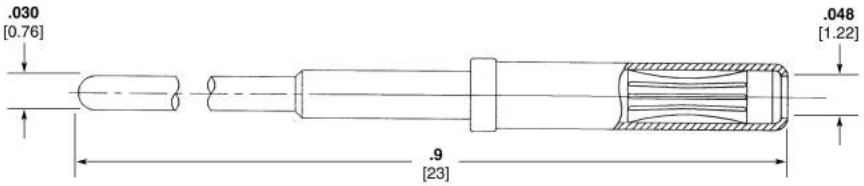




Pin Part Number 194081-1



Multiple contact point due to hyperbolic shape.



Socket Part Number 194083-1

The contacts can be sold loose piece or installed into any of the MIL Standard connectors.

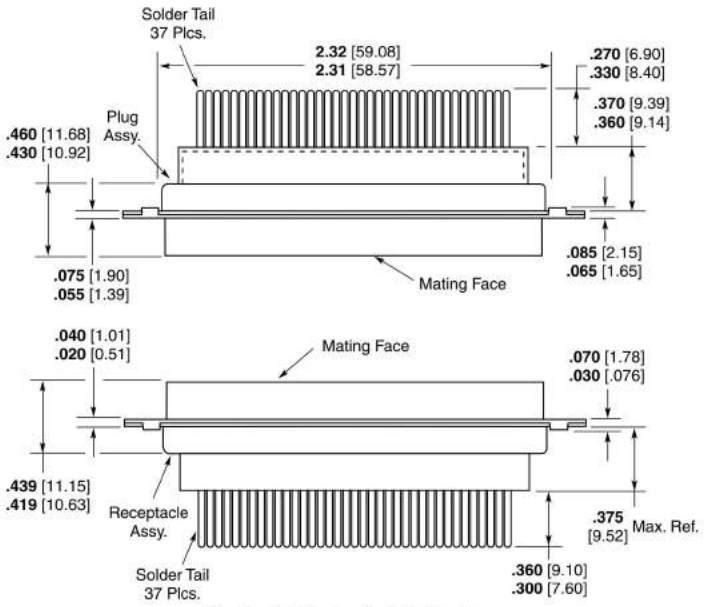


Pin and Socket Insertion/Extraction Tool

Part Number 91067-2 or MIL number M81969/1-02

Insertion tip, for replacement Part Number 126195-3

Extraction tip, for replacement Part Number 126195-4



Typical Fully-Loaded 37 Position Plug and Receptacle

Note: 1. High Current contacts with Louvertac bands are NOT intermateable with any other contact.

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AMPLIMITE Connectors, Series 109 (Continued)

Crimp, Series 109, Standard Density Connectors (MIL Qualified)

Material and Finish

Shell — Steel, cadmium plated

Insert — Approved material per MIL-DTL-24308

Retention Clips — Stainless steel

Related Product Data

Cavity Identification — page 8-39

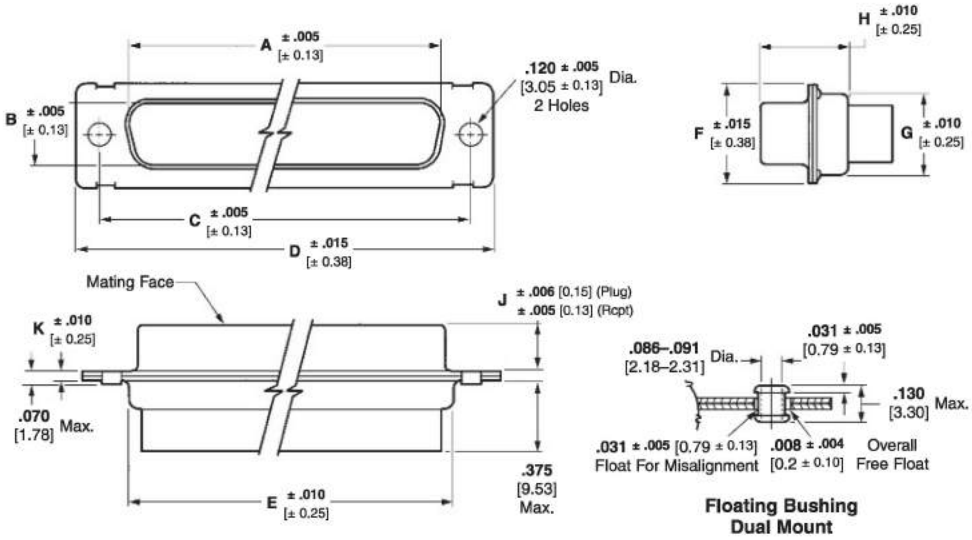
Contacts — pages 8-40 to 8-42

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97

Attention: Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.



Series 109 Plugs per MIL-DTL-24308

No. of Contact Pos. (Shell Size)	Dimensions										Standard Mount		Floating Bushing Mount		Description
	A (Inside)	B (Inside)	C	D	E	F	G	H	J	K	Military Part No. M24308/	AMP Part No.	Military Part No. M24308/	AMP Part No.	
9	.666	.329	.984	1.213	.759	.494	.422	.422	.235	.030	4-259F	205162-1	4-324F	205412-1	Plug only
(1)	16.92	8.36	24.99	30.81	19.28	12.55	10.72	10.72	5.97	0.76	4-1F	205556-2	4-302F	205486-2	Plug with pins
15	.994	.329	1.312	1.541	1.083	.494	.422	.422	.235	.030	4-260F	205164-1	4-325F	205408-1	Plug only
(2)	25.25	8.36	33.32	39.14	27.51	12.55	10.72	10.72	5.97	0.76	4-2F	205558-2	4-303F	205409-2	Plug with pins
25	1.534	.329	1.852	2.088	1.625	.494	.422	.426	.230	.039	4-261F	205166-1	4-326F	205413-1	Plug only
(3)	38.96	8.36	47.04	53.04	41.3	12.55	10.72	10.82	5.84	0.99	4-3F	205560-2	4-304F	205487-2	Plug with pins
37	2.182	.329	2.500	2.729	2.272	.494	.422	.426	.230	.039	4-262F	205168-1	4-327F	205414-1	Plug only
(4)	55.42	8.36	63.5	69.32	57.71	12.55	10.72	10.82	5.84	0.99	4-4F	205562-2	4-305F	205488-2	Plug with pins
50	2.079	.441	2.406	2.635	2.178	.605	.534	.426	.230	.039	4-263F	205170-1	4-328F	205415-1	Plug only
(5)	52.81	11.2	61.11	66.93	55.32	15.37	13.56	10.82	5.84	0.99	4-5F	205564-2	4-306F	205431-2	Plug with pins

Series 109 Receptacles per MIL-DTL-24308

No. of Contact Pos. (Shell Size)	Dimensions										Standard Mount		Floating Bushing Mount		Description
	A (Outside)	B (Outside)	C	D	E	F	G	H	J	K	Military Part No. M24308/	AMP Part No.	Military Part No. M24308/	AMP Part No.	
9	.643	.311	.984	1.213	.759	.494	.422	.429	.243	.030	2-281F	205161-1	2-292F	205416-1	Recept. only
(1)	16.33	7.9	24.99	30.81	19.28	12.55	10.72	10.9	6.17	0.76	2-1F	205555-2	2-23F	205483-2	Recept. with sockets
15	.971	.311	1.312	1.541	1.083	.494	.422	.429	.243	.030	2-282F	205163-1	2-293F	205417-1	Recept. only
(2)	24.66	7.9	33.32	39.14	27.51	12.55	10.72	10.9	6.17	0.76	2-2F	205557-2	2-24F	205433-2	Recept. with sockets
25	1.511	.311	1.852	2.088	1.625	.494	.422	.429	.243	.039	2-283F	205165-1	2-294F	205418-1	Recept. only
(3)	38.38	7.9	47.04	53.04	41.3	12.55	10.72	10.9	6.17	0.99	2-3F	205559-2	2-25F	205484-2	Recept. with sockets
37	2.159	.311	2.500	2.729	2.272	.494	.422	.429	.243	.039	2-284F	205167-1	2-295F	205419-1	Recept. only
(4)	54.84	7.9	63.5	69.32	57.71	12.55	10.72	10.9	6.17	0.99	2-4F	205561-2	2-26F	205485-2	Recept. with sockets
50	2.064	.423	2.406	2.635	2.178	.605	.534	.429	.243	.039	2-285F	205169-1	2-296F	205420-1	Recept. only
(5)	52.43	10.74	61.11	66.93	55.32	15.37	13.56	10.9	6.17	0.99	2-5F	205563-2	2-27F	205432-2	Recept. with sockets

Notes: 1. Size 20 contacts supplied with connectors are loose piece.
2. "F" is stamped on connectors following **M24308** Part Number as required. -"F" designates cadmium shell plating.
3. See pages 8-99 through 8-103 (Military to AMP Part Number cross reference) for additional part numbers.

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

Dimensions are in millimeters unless otherwise specified.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Crimp, Series 109, Standard Density Connectors (MIL Qualified) — Zinc Plated RoHS Compliant

Material and Finish

Shell — Steel, zinc plated

Insert — Approved material per MIL-DTL-24308

Retention Clips — Stainless steel

Related Product Data:

Cavity Identification — page 8-39

Contacts — pages 8-40 to 8-42

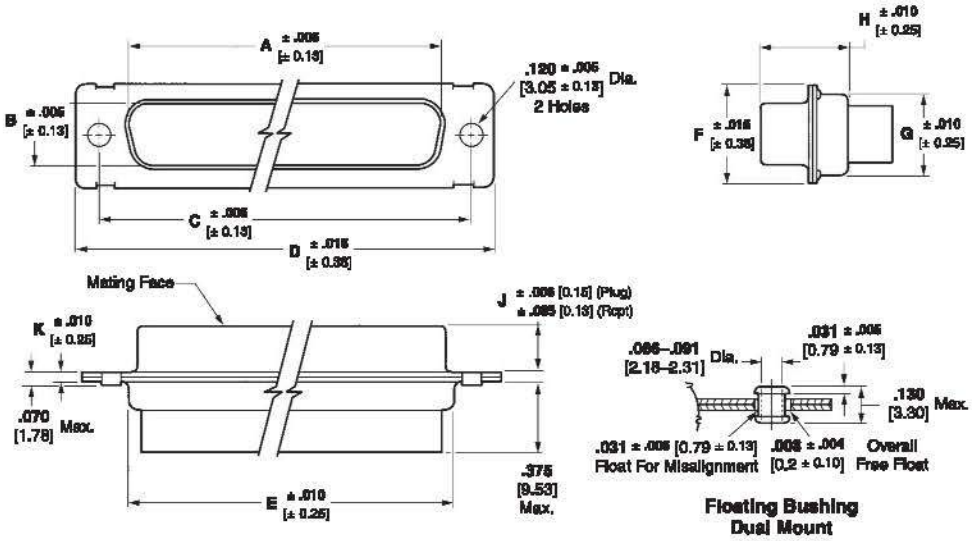
Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97

Attention: Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.

RoHS Ready



Floating Bushing Dual Mount

Series 109 Plugs per MIL-DTL-24308

No. of Contact Pos. (Shell Size)	Dimensions										Standard Mount		Floating Bushing Mount		Description
	A (Inside)	B (Inside)	C	D	E	F	G	H	J	K	Military Part No. M24308/	AMP Part No.	Military Part No. M24308/	AMP Part No.	
9	.566	.329	.984	1.213	.759	.494	.422	.422	.235	.030	4-259	1757819-1	4-324	1757821-1	Plug only
(1)	16.92	8.36	24.99	30.81	19.28	12.55	10.72	10.72	5.97	0.76	4-1	1757819-6	4-302	1757821-6	Plug with pins
15	.994	.329	1.312	1.541	1.083	.494	.422	.422	.235	.030	4-260	1757819-2	4-325	1757821-2	Plug only
(2)	25.25	8.36	33.32	39.14	27.51	12.55	10.72	10.72	5.97	0.76	4-2	1757819-7	4-303	1757821-7	Plug with pins
25	1.534	.329	1.852	2.088	1.625	.494	.422	.426	.230	.039	4-261	1757819-3	4-326	1757821-3	Plug only
(3)	38.96	8.36	47.04	53.04	41.3	12.55	10.72	10.82	5.84	0.99	4-3	1757819-8	4-304	1757821-8	Plug with pins
37	2.162	.329	2.500	2.729	2.272	.494	.422	.426	.230	.039	4-262	1757819-4	4-327	1757821-4	Plug only
(4)	55.42	8.36	63.5	69.32	57.71	12.55	10.72	10.82	5.84	0.99	4-4	1757819-9	4-305	1757821-9	Plug with pins
50	2.079	.441	2.406	2.635	2.178	.605	.534	.426	.230	.039	4-263	1757819-5	4-328	1757821-5	Plug only
(5)	52.81	11.2	61.11	66.93	55.32	15.37	13.56	10.82	5.84	0.99	4-5	1-1757819-0	4-306	1-1757821-0	Plug with pins

Series 109 Receptacles per MIL-DTL-24308

No. of Contact Pos. (Shell Size)	Dimensions										Standard Mount		Floating Bushing Mount		Description
	A (Outside)	B (Outside)	C	D	E	F	G	H	J	K	Military Part No. M24308/	AMP Part No.	Military Part No. M24308/	AMP Part No.	
9	.643	.311	.984	1.213	.759	.494	.422	.429	.243	.030	2-281	1757820-1	2-292	1757822-1	Recept. only
(1)	16.33	7.9	24.99	30.81	19.28	12.55	10.72	10.9	6.17	0.76	2-1	1757820-6	2-23	1757822-6	Recept. with sockets
15	.971	.311	1.312	1.541	1.083	.494	.422	.429	.243	.030	2-282	1757820-2	2-293	1757822-2	Recept. only
(2)	24.66	7.9	33.32	39.14	27.51	12.55	10.72	10.9	6.17	0.76	2-2	1757820-7	2-24	1757822-7	Recept. with sockets
25	1.611	.311	1.852	2.088	1.625	.494	.422	.429	.243	.039	2-283	1757820-3	2-294	1757822-3	Recept. only
(3)	38.38	7.9	47.04	53.04	41.3	12.55	10.72	10.9	6.17	0.99	2-3	1757820-8	2-25	1757822-8	Recept. with sockets
37	2.159	.311	2.500	2.729	2.272	.494	.422	.429	.243	.039	2-284	1757820-4	2-295	1757822-4	Recept. only
(4)	54.84	7.9	63.5	69.32	57.71	12.55	10.72	10.9	6.17	0.99	2-4	1757820-9	2-26	1757822-9	Recept. with sockets
50	2.064	.423	2.408	2.635	2.178	.605	.534	.429	.243	.039	2-285	1757820-5	2-296	1757822-5	Recept. only
(5)	52.43	10.74	61.11	66.93	55.32	15.37	13.56	10.9	6.17	0.99	2-5	1-1757820-0	2-27	1-1757822-0	Recept. with sockets

Notes: 1. Size 20 contacts supplied with connectors are loose piece.
2. See pages 8-99 through 8-103 (Military to AMP Part Number cross reference) for additional part numbers.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Crimp, Series 109, Standard Density Connectors (Industrial Grade)

Material and Finish

Shell — Steel, zinc plated

Insert — Approved material per MIL-DTL-24308

Retention Clips — Stainless steel

Related Product Data

Cavity Identification — page 8-39

Contacts — pages 8-40 to 8-42

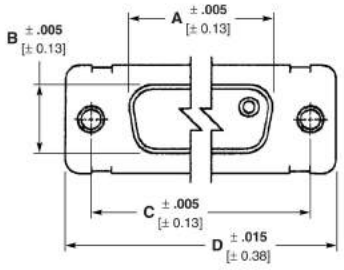
Mounting, Mating Specifications — page 8-90

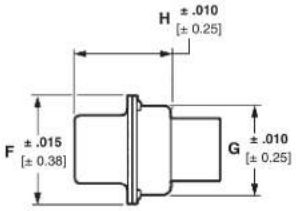
Accessories — pages 8-95 to 8-97

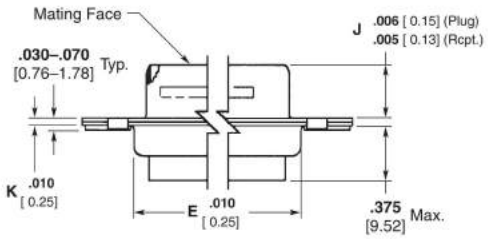
Attention: Connector Marking

Connector marking may differ from package marking.

Note: Meets requirements of MIL-DTL-24308









Clinch Nut Mount

Series 109 Plugs

No. of Contact Pos. (Shell Size)	Dimensions										Standard Mount Part Number	Description
	A (Inside)	B (Inside)	C	D	E	F	G	H	J	K		
9 (1)	**.666** 16.92	**.329** 8.36	**.984** 24.99	**1.213** 30.81	**.759** 19.28	**.494** 12.55	**.422** 10.72	**.422** 10.72	**.235** 5.97	**.030** 0.76	1218748-1	Plug only
15 (2)	**.994** 25.25	**.329** 8.36	**1.312** 33.32	**1.541** 39.14	**1.083** 27.51	**.494** 12.55	**.422** 10.72	**.422** 10.72	**.235** 5.97	**.030** 0.76	1218748-2	Plug only
25 (3)	**1.534** 38.96	**.329** 8.36	**1.852** 47.04	**2.088** 53.04	**1.625** 41.3	**.494** 12.55	**.422** 10.72	**.426** 10.82	**.230** 5.84	**.039** 0.99	1218748-3	Plug only
37 (4)	**2.182** 55.42	**.329** 8.36	**2.500** 63.5	**2.729** 69.32	**2.272** 57.71	**.494** 12.55	**.422** 10.72	**.426** 10.82	**.230** 5.84	**.039** 0.99	1218748-4	Plug only
50 (5)	**2.079** 52.81	**.441** 11.2	**2.406** 61.11	**2.635** 66.93	**2.178** 55.32	**.605** 15.37	**.534** 13.56	**.426** 10.82	**.230** 5.84	**.039** 0.99	1218748-5	Plug. only

Clinch Nut Mount available, contact TE.

Series 109 Receptacles

No. of Contact Pos. (Shell Size)	Dimensions										Clinch Nut Mount Part Number	Description
	A (Inside)	B (Inside)	C	D	E	F	G	H	J	K		
9 (1)	**.643** 16.33	**.311** 7.9	**.984** 24.99	**1.213** 30.81	**.759** 19.28	**.494** 12.55	**.422** 10.72	**.429** 10.9	**.243** 6.17	**.030** 0.76	1218749-1	Recept. only
15 (2)	**.971** 24.66	**.311** 7.9	**1.312** 33.32	**1.541** 39.14	**1.083** 27.51	**.494** 12.55	**.422** 10.72	**.429** 10.9	**.243** 6.17	**.030** 0.76	1218749-2	Recept. only
25 (3)	**1.511** 38.38	**.311** 7.9	**1.852** 47.04	**2.088** 53.04	**1.625** 41.3	**.494** 12.55	**.422** 10.72	**.429** 10.9	**.243** 6.17	**.039** 0.99	1218749-3	Recept. only
37 (4)	**2.159** 54.84	**.311** 7.9	**2.500** 63.5	**2.729** 69.32	**2.272** 57.71	**.494** 12.55	**.422** 10.72	**.429** 10.9	**.243** 6.17	**.039** 0.99	1218749-4	Recept. only
50 (5)	**2.064** 52.43	**.423** 10.74	**2.406** 61.11	**2.635** 66.93	**2.178** 55.32	**.605** 15.37	**.534** 13.56	**.429** 10.9	**.243** 6.17	**.039** 0.99	1218749-5	Recept. only

Standard Mount available, contact TE.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Non-Magnetic Crimp Plugs, Series 109, Standard Density Connectors (NASA Qualified)

Connector Material and Finish

Shell — Brass, gold plated

Insert — Approved material per MIL-DTL-24308

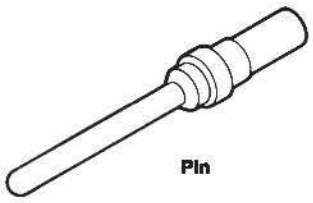
Retention Clips — Copper alloy

Related Product Data

Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97



Pin

Pin Contact

Wire Size Range	AMP Part No. / NASA No.
26-28 0.15-0.08	206794-2 —
20-24 0.5-0.2	205089-4 G-10-P1

Strip length .140 [3.56]
Max. insulation diameter .072 [1.83]

Hand tool M22520/2-01 or AMP Part Number 601966-1

Positioner M22520/2-08 or AMP Part Number 601966-5

Contact Material and Finish

Copper alloy plated gold .000050–.000100 [0.00127–0.00254] thick over .000100–.000150 [0.00254–0.00381] copper underplate

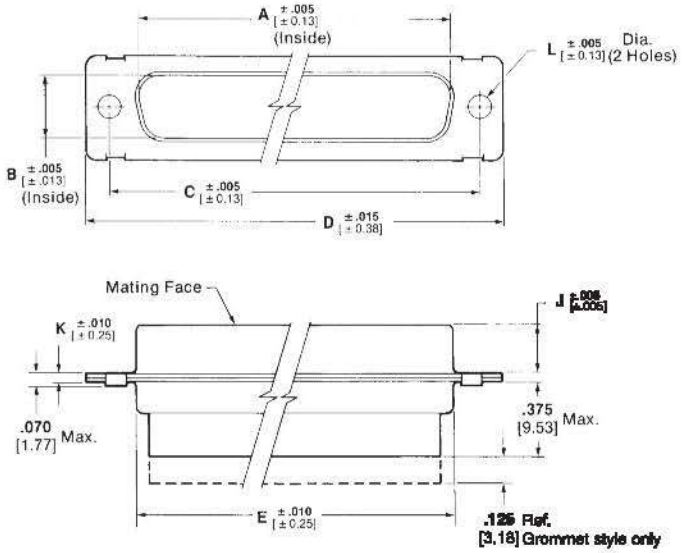


Pin and Socket Insertion/Extraction Tool

AMP Part Number 91067-2 or MIL Number M81969/1-02

Insertion tip, for replacement Part Number 126195-3

Extraction tip, for replacement Part Number 126195-4



Non-Magnetic Plugs per NASA Specification

No. of Contact Pos. (Shell Size)	Dimensions A	B	C	D	E	F	G	H	J	K	L	NASA Number	AMP Part Number
9 (1)	.666 16.92	.329 8.36	.984 24.99	1.213 30.81	.759 19.28	.494 12.55	.422 10.72	.422 10.72	.235 5.97	.030 0.76	.154 3.91	311P409-1P-B-15	207252-1
											.120 3.05	311P409-1P-B-12	207252-2
15 (2)	.994 25.25	.329 8.36	1.312 33.32	1.541 39.14	1.083 27.51	.494 12.55	.422 10.72	.422 10.72	.235 5.97	.030 0.76	.154 3.91	311P409-2P-B-15	206798-1
											.120 3.05	311P409-2P-B-12	206798-2
25 (3)	1.534 38.96	.329 8.36	1.852 47.04	2.088 53.04	1.525 41.3	.494 12.55	.422 10.72	.426 10.82	.230 5.84	.039 0.99	.154 3.91	311P409-3P-B-15	206800-1
											.120 3.05	311P409-3P-B-12	206800-2
37 (4)	2.182 55.42	.329 8.36	2.500 63.5	2.729 69.32	2.272 57.71	.494 12.55	.422 10.72	.426 10.82	.230 5.84	.039 0.99	.154 3.91	311P409-4P-B-15	206802-1
											.120 3.05	311P409-4P-B-12	206802-2
50 (5)	2.079 52.81	.441 11.20	2.406 61.11	2.635 66.93	2.178 55.32	.605 15.37	.534 13.56	.426 10.82	.230 5.84	.039 0.99	.154 3.91	311P409-5P-B-15	206804-1
											.120 3.05	311P409-5P-B-12	206804-2

Non-Magnetic Plugs With Silicone Rubber Rear Grommet[1]

No. of Contact Pos. (Shell Size)	Dimensions A	B	C	D	E	F	G	H	J	K	L	Part Number
9 (1)	.666 16.92	.329 8.36	.984 24.99	1.213 30.81	.759 19.28	.494 12.55	.422 10.72	.422 10.72	.235 5.97	.030 0.76	.120 3.05	211638-4
15 (2)	.994 25.25	.329 8.36	1.312 33.32	1.541 39.14	1.083 27.51	.494 12.55	.422 10.72	.422 10.72	.235 5.97	.030 0.76	.120 3.05	211639-4
25 (3)	1.534 38.96	.329 8.36	1.852 47.04	2.088 53.04	1.825 41.3	.494 12.55	.422 10.72	.426 10.82	.230 5.84	.039 0.99	.120 3.05	211640-4
37 (4)	2.182 55.42	.329 8.36	2.500 63.5	2.729 69.32	2.272 57.71	.494 12.55	.422 10.72	.426 10.82	.230 5.84	.039 0.99	.120 3.05	211641-4
50 (5)	2.079 52.81	.441 11.20	2.406 61.11	2.635 66.93	2.178 55.32	.605 15.37	.534 13.56	.426 10.82	.230 5.84	.039 0.99	.120 3.05	211642-4

[1] Grommet provided for cable strain relief.

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Dimensions are in millimeters unless otherwise specified.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Non-Magnetic Crimp Receptacles, Series 109, Standard Density Connectors (NASA Qualified)

Connector Material and Finish

Shell — Brass, gold plated

Insert — Approved material per MIL-DTL-24308

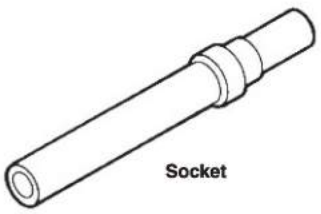
Retention Clips — Copper alloy

Related Product Data

Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97



Socket

Socket Contact

Wire Size Range	AMP Part No. / NASA No.
26-28 0.15-0.08	206795-1 —
20-24 0.6-0.2	206793-1 G-10-S1

Strip length .140 [3.56]
Max. insulation diameter .072 [1.83]

Hand tool M22520/2-01 or AMP Part Number 601966-1

Positioner M22520/2-08 or AMP Part Number 601966-5

Contact Material and Finish

Copper alloy plated gold .000050–.000100 [0.00127–0.00254] thick over .000100–.000150 [0.00254–0.00381] copper underplate

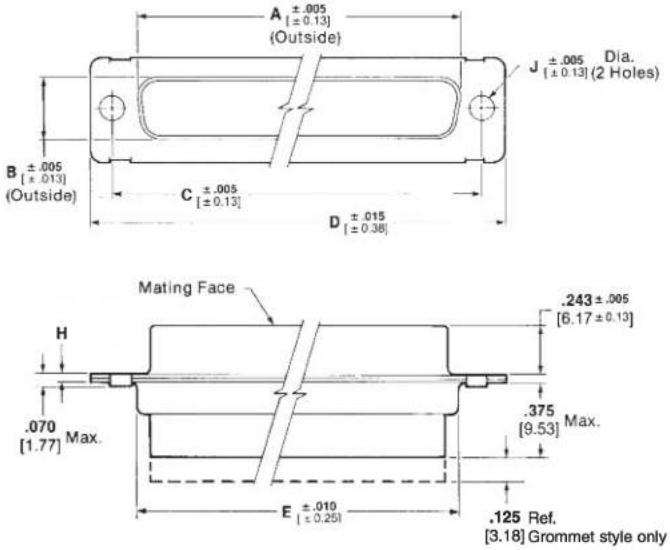


Pin and Socket Insertion/Extraction Tool

AMP Part Number 91067-2 or MIL Number M81969/1-02

Insertion tip, for replacement Part Number 126195-3

Extraction tip, for replacement Part Number 126195-4



Non-Magnetic Receptacles per NASA Specification

No. of Contact Pos. (Shell Size)	Dimensions A	B	C	D	E	F	G	H	J	NASA Number	AMP Part Number
9 (1)	**.643** 16.33	**.311** 7.9	**.984** 24.99	**1.213** 30.81	**.759** 19.28	**.494** 12.55	**.422** 10.72	**.030** 0.76	**.154** 3.91	311P409-1S-B-15	207253-1
									.120 3.05	311P409-1S-B-12	207253-2
15 (2)	**.971** 24.66	**.311** 7.9	**1.312** 33.32	**1.541** 39.14	**1.083** 27.51	**.494** 12.55	**.422** 10.72	**.030** 0.76	**.154** 3.91	311P409-2S-B-15	206799-1
									.120 3.05	311P409-2S-B-12	206799-2
25 (3)	**1.511** 38.38	**.311** 7.9	**1.852** 47.04	**2.088** 53.04	**1.625** 41.3	**.494** 12.55	**.422** 10.72	**.039** 0.99	**.154** 3.91	311P409-3S-B-15	206801-1
									.120 3.05	311P409-3S-B-12	206801-2
37 (4)	**2.159** 55.42	**.311** 7.9	**2.500** 63.5	**2.729** 69.32	**2.272** 57.71	**.494** 12.55	**.422** 10.72	**.039** 0.99	**.154** 3.91	311P409-4S-B-15	206803-1
									.120 3.05	311P409-4S-B-12	206803-2
50 (5)	**2.064** 52.43	**.423** 10.74	**2.406** 61.11	**2.635** 66.93	**2.178** 55.32	**.605** 15.37	**.534** 13.56	**.039** 0.99	**.154** 3.91	311P409-5S-B-15	206805-1
									.120 3.05	311P409-5S-B-12	206805-2

Non-Magnetic Receptacles With Silicone Rubber Rear Grommet[1]

No. of Contact Pos. (Shell Size)	Dimensions A	B	C	D	E	F	G	H	J	Part Number
9 (1)	**.643** 16.33	**.311** 7.9	**.984** 24.99	**1.213** 30.81	**.759** 19.28	**.494** 12.55	**.422** 10.72	**.030** 0.76	**.120** 3.05	211633-4
15 (2)	**.971** 24.66	**.311** 7.9	**1.312** 33.32	**1.541** 39.14	**1.083** 27.51	**.494** 12.55	**.422** 10.72	**.030** 0.76	**.120** 3.05	211634-4
25 (3)	**1.511** 38.38	**.311** 7.9	**1.852** 47.04	**2.088** 53.04	**1.625** 41.3	**.494** 12.55	**.422** 10.72	**.039** 0.99	**.120** 3.05	211635-4
37 (4)	**2.159** 54.84	**.311** 7.9	**2.500** 63.5	**2.729** 69.32	**2.272** 57.71	**.494** 12.55	**.422** 10.72	**.039** 0.99	**.120** 3.05	211636-4
50 (5)	**2.064** 52.43	**.423** 10.74	**2.406** 61.11	**2.635** 66.93	**2.178** 55.32	**.605** 15.37	**.534** 13.56	**.039** 0.99	**.120** 3.05	211637-4

[1] Grommet provided for cable strain relief.

Catalog 1308940
Revised 9-14

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

Dimensions are in millimeters unless otherwise specified.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Crimp, Blindmate Plugs, Series 109, Standard Density Connectors

Materials and Finish

[1] **Shell, Front** — Aluminum alloy, cadmium plated with yellow chromate

[2] **Shell, Front** — Aluminum alloy, zinc plated with yellow trichromate

[1] **Shell, Rear** — Steel, cadmium plated with yellow chromate

[2] **Shell, Rear** — Steel, zinc plated with yellow trichromate

Insert Assembly — Approved material per MIL-DTL-24308

Retention Clips — Stainless steel

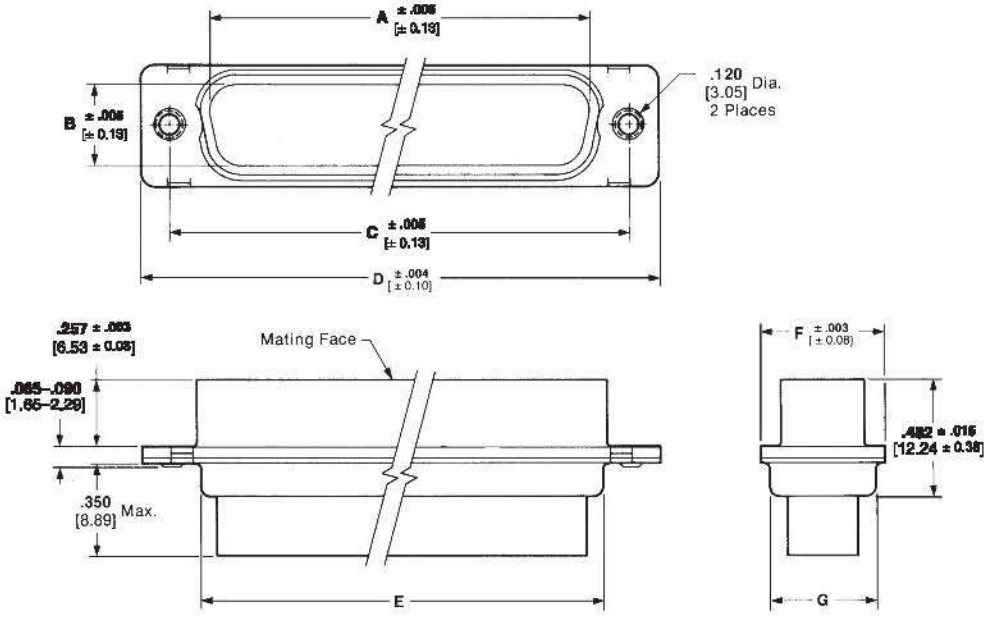
Related Product Data

Cavity Identification — page 8-39

Contacts — pages 8-40 to 8-42

Mounting Specifications — page 8-90

Mating information contained on page 8-90 does not pertain to Blindmate design. Flange to flange spacing can be a max. of .270 [6.86].



No. of Contact Pos. (Shell Size)	Dimensions							Part Number
	A	B	C	D	E	F	G	
9 (1)	.656 16.66	.324 8.23	.984 24.99	1.224 31.09	.769/.750 19.53/19.05	.506 12.85	.432/.413 10.97/10.49	445005-1[1] 5-445005-1[2]
15 (2)	.984 25.0	.324 8.23	1.312 33.32	1.552 39.42	1.093/1.074 27.76/27.28	.506 12.85	.432/.413 10.97/10.49	445006-1[1] 5-445006-1[2]
25 (3)	1.524 38.71	.324 8.23	1.852 47.04	2.099 53.31	1.635/1.616 41.53/41.05	.506 12.85	.432/.413 10.97/10.49	445007-1[1] 5-445007-1[2]
37 (4)	2.172 55.17	.324 8.23	2.500 63.5	2.740 69.60	2.282/2.263 57.96/57.48	.506 12.85	.432/.413 10.97/10.49	445008-1[1] 5-445008-1[2]
50 (5)	2.062 52.88	.444 11.28	2.406 61.11	2.646 67.21	2.188/2.167 55.58/55.04	.617 15.67	.544/.525 13.82/13.34	445009-1[1] 5-445009-1[2]

[1] See Material and Finish above.
[2] See Material and Finish for RoHS compliant Part Numbers above.
Note: See page 5-182 for Blindmate coax/signal combinations.

Catalog 1308940
Revised 9-14

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

Dimensions are in millimeters unless otherwise specified.

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AMPLIMITE Connectors, Series 109 (Continued)

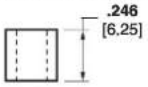
Straight PCB, Series 109, Standard Density Connectors (MIL Qualified)

Material and Finish

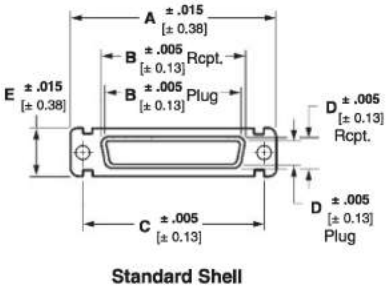
Shell — Steel, cadmium plated
Insert — Approved material per MIL-DTL-24308
Contact — Copper alloy plated gold over nickel underplate*
Spacer — Aluminum alloy, Iridite finish

Related Product Data

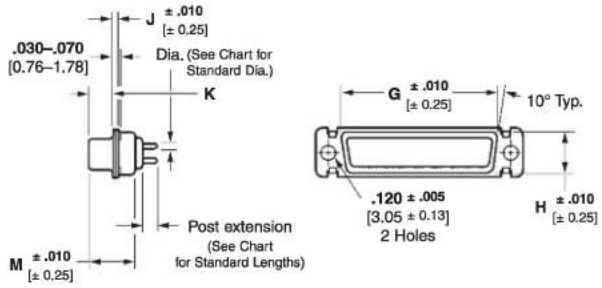
Cavity Identification — page 8-39
Mounting, Mating Specifications — page 8-90
Accessories — pages 8-95 to 8-97
PCB Layouts — See page 7-91 or TE Connectivity customer drawing.
***Socket Body** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel
Mating Area — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel
Plug Body — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel



Spacer



Standard Shell



MS Shell Size	Connector Style	Dimensions									
		A	B	C	D	E	G	H	J	K	M
1	Plug	1.213 30.81	.666 16.92	.984 24.99	.329 8.36	.494 12.55	.759 19.28	.422 10.72	.030 0.76	.238/.229 6.04/5.81	.422 10.72
	Receptacle	1.213 30.81	.643 16.33	.984 24.99	.311 7.90	.494 12.55	.759 19.28	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
2	Plug	1.541 39.14	.994 25.25	1.312 33.32	.329 8.36	.494 12.55	1.083 27.51	.422 10.72	.030 0.76	.238/.229 6.04/5.81	.422 10.72
	Receptacle	1.541 39.14	.971 24.66	1.312 33.32	.311 7.90	.494 12.55	1.083 27.51	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
3	Plug	2.088 53.04	1.534 38.96	1.852 47.04	.329 8.36	.494 12.55	1.625 41.28	.422 10.72	.039 0.99	.236/.224 5.99/5.68	.426 10.82
	Receptacle	2.088 53.04	1.511 38.38	1.852 47.04	.311 7.90	.494 12.55	1.625 41.28	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
4	Plug	2.729 69.32	2.182 55.42	2.500 63.5	.329 8.36	.494 12.55	2.272 57.71	.422 10.72	.039 0.99	.236/.224 5.99/5.68	.426 10.82
	Receptacle	2.729 69.32	2.159 54.84	2.500 63.5	.311 7.90	.494 12.55	2.272 57.71	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
5	Plug	2.635 66.93	2.079 52.81	2.406 61.11	.441 11.20	.605 15.37	2.178 55.32	.534 13.56	.039 0.99	.236/.224 5.99/5.68	.426 10.82
	Receptacle	2.635 66.93	2.064 52.43	2.406 61.11	.423 10.74	.605 15.37	2.178 55.32	.534 13.55	.030 0.76	.248/.238 6.29/6.04	.429 10.90

Receptacle Assemblies

Shell Size	No. Pos.	Post Dia.	Post Ext. ± .020 [± 0.51]	Zinc Plated Shells: Military Part No. M24308/	Zinc Plated Shells: Part No.	Cadmium Plated Shells: Military Part No. M24308/	Cadmium Plated Shells: Part No.
1	9	.030 0.76	.156 3.96	23-1	1757828-1	23-1F	443975-1
2	15	.030 0.76	.156 3.96	23-2	1757828-2	23-2F	443975-2
3	25	.030 0.76	.156 3.96	23-3	1757828-3	23-3F	443975-3
4	37	.030 0.76	.156 3.96	23-4	1757828-4	23-4F	443975-4
5	50	.030 0.76	.156 3.96	23-5	1757828-5	23-5F	443975-5
1	9	.030 0.76	.188 4.78	23-7	1757830-1	23-7F	443976-1
2	15	.030 0.76	.188 4.78	23-8	1757830-2	23-8F	443976-2
3	25	.030 0.76	.188 4.78	23-9	1757830-3	23-9F	443976-3
4	37	.030 0.76	.188 4.78	23-10	1757830-4	23-10F	443976-4
5	50	.030 0.76	.188 4.78	23-11	1757830-5	23-11F	443976-5
1	9	.040 1.02	.156 3.96	23-13	1757832-1	23-13F	443977-1
2	15	.040 1.02	.156 3.96	23-14	1757832-2	23-14F	443977-2
3	25	.040 1.02	.156 3.96	23-15	1757832-3	23-15F	443977-3
4	37	.040 1.02	.156 3.96	23-16	1757832-4	23-16F	443977-4
5	50	.040 1.02	.156 3.96	23-17	1757832-5	23-17F	443977-5
1	9	.040 1.02	.188 4.78	23-19	1757834-1	23-19F	443978-1
2	15	.040 1.02	.188 4.78	23-20	1757834-2	23-20F	443978-2
3	25	.040 1.02	.188 4.78	23-21	1757834-3	23-21F	443978-3
4	37	.040 1.02	.188 4.78	23-22	1757834-4	23-22F	443978-4
5	50	.040 1.02	.188 4.78	23-23	1757834-5	23-23F	443978-5

Plug Assemblies

Shell Size	No. Pos.	Post Dia.	Post Ext. ± .020 [± 0.51]	Zinc Plated Shells: Military Part No. M24308/	Zinc Plated Shells: Part No.	Cadmium Plated Shells: Military Part No. M24308/	Cadmium Plated Shells: Part No.
1	9	.030 0.76	.156 3.96	24-1	1757827-1	24-1F	1218124-1
2	15	.030 0.76	.156 3.96	24-2	1757827-2	24-2F	1218124-2
3	25	.030 0.76	.156 3.96	24-3	1757827-3	24-3F	1218124-3
4	37	.030 0.76	.156 3.96	24-4	1757827-4	24-4F	1218124-4
5	50	.030 0.76	.156 3.96	24-5	1757827-5	24-5F	1218124-5
1	9	.030 0.76	.188 4.78	24-7	1757829-1	24-7F	1218125-1
2	15	.030 0.76	.188 4.78	24-8	1757829-2	24-8F	1218125-2
3	25	.030 0.76	.188 4.78	24-9	1757829-3	24-9F	1218125-3
4	37	.030 0.76	.188 4.78	24-10	1757829-4	24-10F	1218125-4
5	50	030 0.76	.188 4.78	24-11	1757829-5	24-11F	1218125-5
1	9	.040 1.02	.156 3.96	24-13	1757831-1	24-13F	1218126-1
2	15	.040 1.02	.156 3.96	24-14	1757831-2	24-14F	1218126-2
3	25	.040 1.02	.156 3.96	24-15	1757831-3	24-15F	1218126-3
4	37	.040 1.02	.156 3.96	24-16	1757831-4	24-16F	1218126-4
5	50	.040 1.02	.156 3.96	24-17	1757831-5	24-17F	1218126-5
1	9	.040 1.02	.188 4.78	24-19	1757833-1	24-19F	1218127-1
2	15	.040 1.02	.188 4.78	24-20	1757833-2	24-20F	1218127-2
3	25	040 1.02	.188 4.78	24-21	1757833-3	24-21F	1218127-3
4	37	.040 1.02	.188 4.78	24-22	1757833-4	24-22F	1218127-4
5	50	.040 1.02	.188 4.78	24-23	1757833-5	24-23F	1218127-5

Catalog 1308940
Revised 9-14

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

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Straight PCB, Series 109, Standard Density Connectors (Industrial Grade)

Material and Finish

Shell — Steel, cadmium or zinc plated

Insert — Approved material per MIL-DTL-24308

Contact — Copper alloy plated gold over nickel underplate*

Spacer — Aluminum alloy, Iridite finish

Related Product Data

Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97

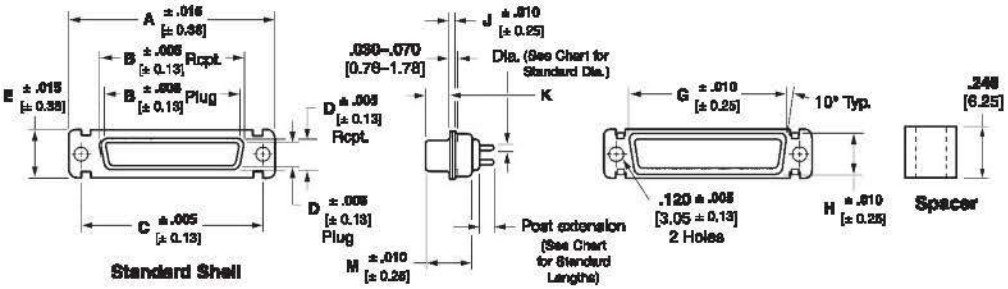
PCB Layouts — See page 8-91 or TE Connectivity customer drawing.

[a]**Socket Body and Mating Area** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

Plug Body and Mating Area — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

[b]**Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

Product Specification — 108-1770



MS Shell Size	Connector Style	Dimensions									
		A	B	C	D	E	G	H	J	K	M
1	Plug	1.213 30.81	.666 16.92	.984 24.99	.329 8.36	.494 12.55	.759 19.28	.422 10.72	.030 0.76	.238/.229 6.04/5.81	.422 10.72
	Receptacle	1.213 30.81	.643 16.33	.984 24.99	.311 7.90	.494 12.55	.759 19.28	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
2	Plug	1.541 39.14	.994 25.25	1.312 33.32	.329 8.36	.494 12.55	1.083 27.51	.422 10.72	.030 0.76	.238/.229 6.04/5.81	.422 10.72
	Receptacle	1.541 39.14	.971 24.66	1.312 33.32	.311 7.90	.494 12.55	1.083 27.51	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
3	Plug	2.088 53.04	1.534 38.96	1.852 47.04	.329 8.36	.494 12.55	1.625 41.28	.422 10.72	.039 0.99	.238/.224 5.99/5.68	.426 10.82
	Receptacle	2.088 53.04	1.511 38.38	1.852 47.04	.311 7.90	.494 12.55	1.625 41.28	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
4	Plug	2.729 69.32	2.182 55.42	2.500 63.5	.329 8.36	.494 12.55	2.272 57.71	.422 10.72	.039 0.99	.238/.224 5.99/5.68	.426 10.82
	Receptacle	2.729 69.32	2.159 54.84	2.500 63.5	.311 7.90	.494 12.55	2.272 57.71	.422 10.72	.030 0.76	.248/.238 6.29/6.04	.429 10.90
5	Plug	2.635 66.93	2.079 52.81	2.406 61.11	.441 11.20	.606 15.37	2.178 55.32	.534 13.56	.039 0.99	.238/.224 5.99/5.68	.426 10.82
	Receptacle	2.635 66.93	2.064 52.43	2.406 61.11	.423 10.74	.606 15.37	2.178 55.32	.534 13.55	.030 0.76	.248/.238 6.29/6.04	.429 10.90

AMPLIMITE Connectors, Series 109 (Continued)

Straight PCB, Series 109, Standard Density Connectors (Industrial Grade) (Continued)

Material and Finish

Shell — Steel, see below

[1] Tin Plated RoHS Compliant Finish — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

[2] Zinc Plated RoHS Compliant Finish — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

Insert — Approved material per MIL-DTL-24308

Contact — Copper alloy plated gold over nickel underplate*

Spacer — Aluminum alloy, Iridite finish

Related Product Data

Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97

PCB Layouts — See page 8-91 or TE Connectivity customer drawing.

*[a] **Socket Body and Mating Area** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

Plug Body and Mating Area — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

[b] **Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

Product Specification — 108-1770

Shell Size	No. Pos.	Post Dia.	Post Ext. ± .020 [± 0.51]	Receptacle Part Number		
				Tin Plated Shells[a]	Tin Plated Shells[b]	Zinc Plated RoHS Shells[a,2]
1	9	.030 0.76	.156 3.96	1218826-1[1]	1218293-1[1]	1218289-1
2	15	.030 0.76	.156 3.96	1218826-2[1]	1218293-2[1]	1218289-2
3	25	.030 0.76	.156 3.96	1218826-3[1]	1218293-3[1]	1218289-3
4	37	.030 0.76	.156 3.96	1218826-4[1]	1218293-4[1]	1218289-4
5	50	.030 0.76	.156 3.96	1218826-5[1]	1218293-5[1]	1218289-5
1	9	.030 0.76	.188 4.78	1218827-1[1]	1218294-1[1]	1218290-1
2	15	.030 0.76	.188 4.78	1218827-2[1]	1218294-2[1]	1218290-2
3	25	.030 0.76	.188 4.78	1218827-3[1]	1218294-3[1]	1218290-3
4	37	.030 0.76	.188 4.78	1218827-4[1]	1218294-4[1]	1218290-4
5	50	.030 0.76	.188 4.78	1218827-5[1]	1218294-5[1]	1218290-5
1	9	.040 1.02	.156 3.96	—	—	1218291-1
2	15	.040 1.02	.156 3.96	—	—	1218291-2
3	25	.040 1.02	.156 3.96	—	—	1218291-3
4	37	.040 1.02	.156 3.96	—	—	1218291-4
5	50	.040 1.02	.156 3.96	—	—	1218291-5
1	9	.040 1.02	.188 4.78	1218829-1[1]	—	1218292-1
2	15	.040 1.02	.188 4.78	1218829-2[1]	—	1218292-2
3	25	.040 1.02	.188 4.78	1218829-3[1]	—	1218292-3
4	37	.040 1.02	.188 4.78	1218829-4[1]	—	1218292-4
5	50	.040 1.02	.188 4.78	1218829-5[1]	—	1218292-5

1 See Tin Plated RoHS compliant finish above.
2 See Zinc Plated RoHS compliant finish above.

Shell Size	No. Pos.	Post Dia.	Post Ext. ± .020 [± 0.51]	Plug Part Number	
				Tin Plated Shells[a]	Zinc Plated RoHS Shells[a,2]
1	9	.030 0.76	.156 3.96	1218374-1[1]	1218378-1
2	15	.030 0.76	.156 3.96	1218374-2[1]	1218378-2
3	25	.030 0.76	.156 3.96	1218374-3[1]	1218378-3
4	37	.030 0.76	.156 3.96	1218374-4[1]	1218378-4
5	50	.030 0.76	.156 3.96	1218374-5[1]	1218378-5
1	9	.030 0.76	.188 4.78	1218375-1[1]	1218379-1
2	15	.030 0.76	.188 4.78	1218375-2[1]	1218379-2
3	25	.030 0.76	.188 4.78	1218375-3[1]	1218379-3
4	37	.030 0.76	.188 4.78	1218375-4[1]	1218379-4
5	50	030 0.76	.188 4.78	1218375-5[1]	1218379-5
1	9	.040 1.02	.156 3.96	—	1218380-1
2	15	.040 1.02	.156 3.96	—	1218380-2
3	25	.040 1.02	.156 3.96	—	1218380-3
4	37	.040 1.02	.156 3.96	—	1218380-4
5	50	.040 1.02	.156 3.96	—	1218380-5
1	9	.040 1.02	.188 4.78	1218377-1[1]	1218381-1
2	15	.040 1.02	.188 4.78	1218377-2[1]	1218381-2
3	25	040 1.02	.188 4.78	1218377-3[1]	1218381-3
4	37	.040 1.02	.188 4.78	1218377-4[1]	1218381-4
5	50	.040 1.02	.188 4.78	1218377-5[1]	1218381-5

2 See Tin Plated RoHS compliant finish above.
3 See Zinc Plated RoHS compliant finish above.

Catalog 1308940
Revised 9-14

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

Dimensions are in millimeters unless otherwise specified.

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Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Straight PCB, Series 109, Make First/Break Last Sub-D Connectors (Industrial Grade)

Material and Finish

Shell — Steel, cadmium or tin plated

Insert — Polyester per MIL-M-24519

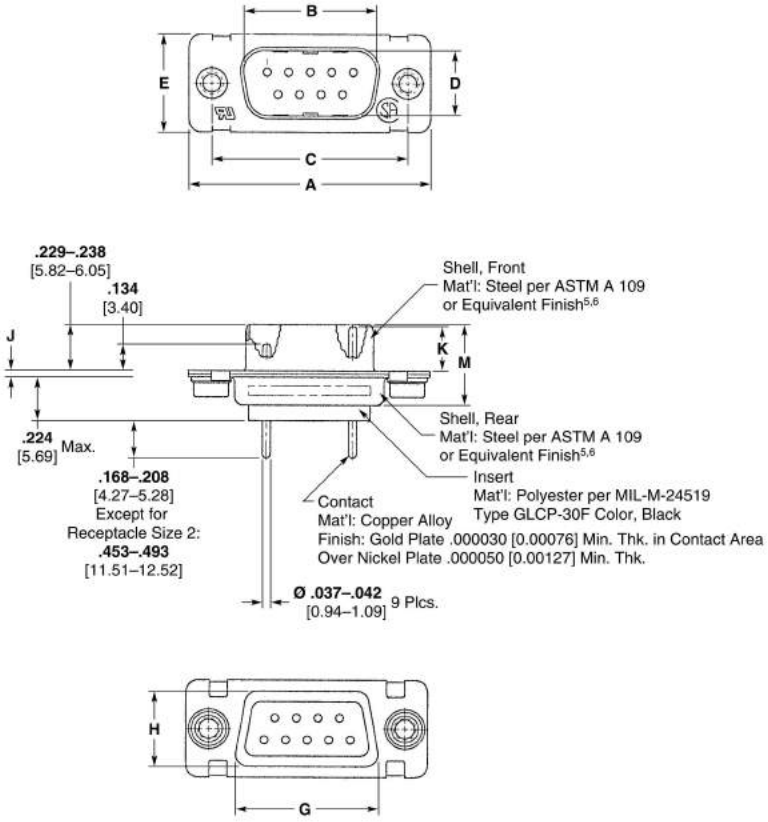
Contact — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

[3] **Regular Length Contact Location:** 1, 6, and 9

[4] **Short Length Contact Location:** 2 thru 5, 7, and 8

[5] **Finish** — Cadmium per QQ-P-416

[6] **Finish** — Tin plated per MIL-T-10727



MS Shell Size	Connector Style	Dimensions									
		A	B	C	D	E	G	H	J	K	M
1	Plug	**1.213** 30.81	**.666** 16.92	**.984** 24.99	**.329** 8.36	**.494** 12.55	**.759** 19.28	**.422** 10.72	**.020/.040** 0.51/1.02	**.223** 5.66	**.412/.432** 10.46/10.97
	Receptacle	**1.213** 30.81	**.643** 16.33	**.984** 24.99	**.311** 7.90	**.494** 12.55	**.759** 19.28	**.422** 10.72	**.238/.248** 6.05/6.30	**.178** 4.52	**.419/.439** 10.64/11.15
2	Receptacle	**1.541** 39.14	**.971** 24.66	**1.312** 33.32	**.311** 7.90	**.494** 12.55	**1.083** 27.51	**.422** 10.72	**.238/.248** 6.05/6.30	**.178** 4.52	**.419/.439** 10.64/11.15
3	Plug	**2.088** 53.04	**1.534** 38.96	**1.852** 47.04	**.329** 8.36	**.494** 12.55	**1.625** 41.28	**.422** 10.72	**.029/.049** 0.74/1.24	**.217** 5.51	**.416/.435** 10.57/11.07

Plug Assemblies

Shell Size	No. Pos.	Post Dia.	Plug Part Number	
			Tin Plated Shells	Cadmium Plated Shells
1	9	**.037/.043** 0.94/1.09	443638-2	443638-1
3	25	**.037/.043** 0.94/1.09	443631-2	443631-1

Receptacle Assemblies

Shell Size	No. Pos.	Post Dia.	Plug Part Number	
			Tin Plated Shells	Cadmium Plated Shells
1	9	**.037/.043** 0.94/1.09	443637-2	443637-1
2	15	**.037/.043** 0.94/1.09	443646-2	443646-1

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Revised 9-14

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AMPLIMITE Connectors, Series 109 (Continued)

Right-Angle, PCB Plugs, Series 109, Standard Density Connectors (MIL Qualified)

Material and Finish

Shell — Steel, cadmium plated

Insert and Post Spacer — Approved material per MIL-DTL-24308

Contact — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

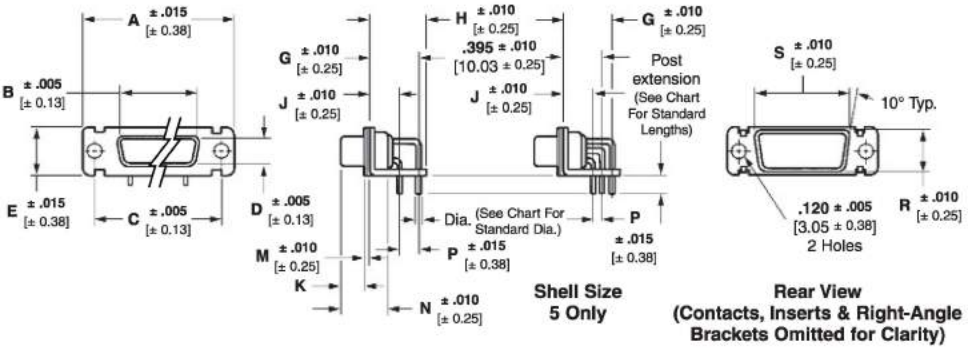
Related Product Data

Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97

PCB Layouts — See page 8-91 or TE Connectivity customer drawing.



MS Shell Size	Connector Style	Dimensions													
		A	B	C	D	E	G	H	J	K	M	N	P	R	S
1	Plug	1.213 30.81	.666 16.92	.984 24.99	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.238/.229 6.04/5.81	.030 0.76	.422 10.72	.112 2.84	.422 10.72	.759 19.28
2	Plug	1.541 39.14	.994 25.25	1.312 33.33	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.238/.229 6.04/5.81	.030 0.76	.422 10.72	.112 2.84	.422 10.72	1.083 27.51
3	Plug	2.088 53.04	1.534 38.96	1.852 47.04	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.236/.224 5.99/5.68	.039 0.99	.426 10.82	.112 2.84	.422 10.72	1.625 29.59
4	Plug	2.729 69.32	2.182 55.42	2.500 63.5	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.236/.224 5.99/5.68	.039 0.99	.426 10.82	.112 2.84	.422 10.72	2.272 57.71
5	Plug	2.635 66.93	2.079 52.81	2.406 61.11	.441 10.44	.605 15.37	.507 12.88	.594 15.09	.283 7.19	.236/.224 5.99/5.68	.039 0.99	.426 10.82	.112 2.84	.534 13.56	2.178 55.32

Plug Assemblies — .030 [0.76] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Zinc Plated Shells		Cadmium Plated Shells	
			Military Part No. M24308/	Part No.	Military Part No. M24308/	Part No.
1	9	.125 3.18	24-25	1757835-1	24-25F	1218440-1
2	15	.125 3.18	24-26	1757835-2	24-26F	1218440-2
3	25	.125 3.18	24-27	1757835-3	24-27F	1218440-3
4	37	.125 3.18	24-28	1757835-4	24-28F	1218440-4
5	50	.125 3.18	24-29	1757835-5	24-29F	1218440-5
1	9	.156 3.96	24-31	1757837-1	24-31F	1218441-1
2	15	.156 3.96	24-32	1757837-2	24-32F	1218441-2
3	25	.156 3.96	24-33	1757837-3	24-33F	1218441-3
4	37	.156 3.96	24-34	1757837-4	24-34F	1218441-4
5	50	.156 3.96	24-35	1757837-5	24-35F	1218441-5
1	9	.188 4.78	24-49	1757839-1	24-49F	1218444-1
2	15	.188 4.78	24-50	1757839-2	24-50F	1218444-2
3	25	.188 4.78	24-51	1757839-3	24-51F	1218444-3
4	37	.188 4.78	24-52	1757839-4	24-52F	1218444-4
5	50	.188 4.78	24-53	1757839-5	24-53F	1218444-5

Plug Assemblies — .040 [1.02] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Zinc Plated Shells		Cadmium Plated Shells	
			Military Part No. M24308/	Part No.	Military Part No. M24308/	Part No.
1	9	.125 3.18	24-37	1757841-1	24-37F	1218442-1
2	15	.125 3.18	24-38	1757841-2	24-38F	1218442-2
3	25	.125 3.18	24-39	1757841-3	24-39F	1218442-3
4	37	.125 3.18	24-40	1757841-4	24-40F	1218442-4
5	50	.125 3.18	24-41	1757841-5	24-41F	1218442-5
1	9	.156 3.96	24-43	1757843-1	—	—
2	15	.156 3.96	24-44	1757843-2	—	—
3	25	.156 3.96	24-45	1757843-3	—	—
4	37	.156 3.96	24-46	1757843-4	—	—
5	50	.156 3.96	24-47	1757843-5	—	—
1	9	.188 4.78	24-55	1757845-1	24-55F	1218445-1
2	15	.188 4.78	24-56	1757845-2	24-56F	1218445-2
3	25	.188 4.78	24-57	1757845-3	24-57F	1218445-3
4	37	.188 4.78	24-58	1757845-4	24-58F	1218445-4
5	50	.188 4.78	24-59	1757845-5	24-59F	1218445-5

Note: The suffix "F" on M24308 part numbers designates cadmium shell plating.

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

Dimensions are in millimeters unless otherwise specified.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Right-Angle, PCB Receptacles, Series 109, Standard Density Connectors (MIL Qualified)

Material and Finish

Shell — Steel, cadmium or zinc plated

Insert and Post Spacer — Approved material per MIL-DTL-24308

Contacts —

Socket Body — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

Mating Area — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

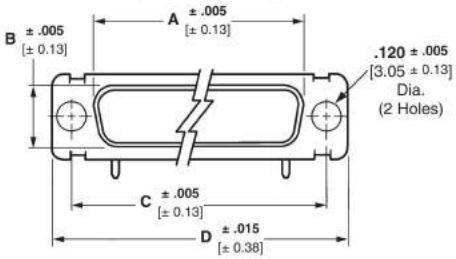
Related Product Data

Cavity Identification — page 8-39

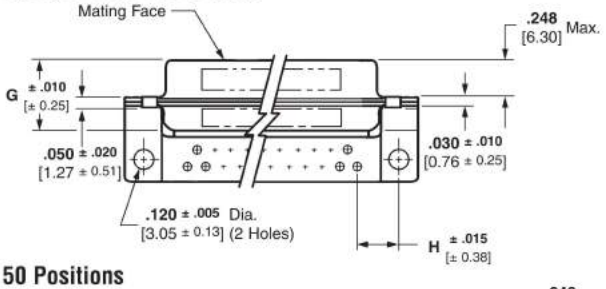
Mounting, Mating Specifications — page 8-90

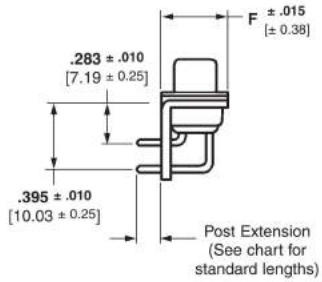
Accessories — pages 8-95 to 8-97

PCB Layouts — See page 8-91 or TE Connectivity customer drawing.

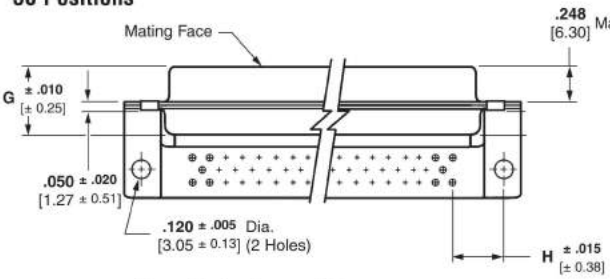


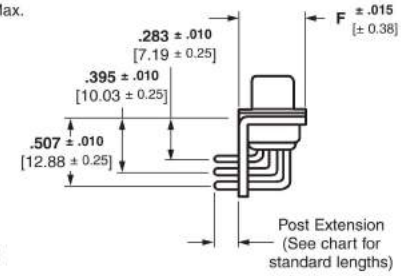
9, 15, 25 and 37 Positions





50 Positions





Receptacle Assemblies

No. of Contact Pos. (Shell Size)	Dimensions						
	A (Outside)	B (Outside)	C	D	F	G	H
9 (1)	**.643** 16.33	**.311** 7.9	**.984** 24.99	**1.213** 30.81	**.494** 12.55	**.429** 10.97	**.276** 7.01
15 (2)	**.971** 24.66	**.311** 7.9	**1.312** 33.32	**1.541** 39.14	**.494** 12.55	**.429** 10.97	**.278** 7.06
25 (3)	**1.511** 38.38	**.311** 7.9	**1.852** 47.04	**2.088** 53.04	**.494** 12.55	**.429** 10.97	**.274** 6.96
37 (4)	**2.159** 54.84	**.311** 7.9	**2.500** 63.5	**2.729** 69.32	**.494** 12.55	**.429** 10.97	**.272** 6.91
50 (5)	**2.064** 52.43	**.423** 10.74	**2.406** 61.11	**2.635** 66.93	**.605** 15.37	**.429** 10.97	**.333** 8.46

Receptacle Assemblies — .030 [0.76] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Zinc Plated Shells		Cadmium Plated Shells	
			Military Part No. M24308/	Part No.	Military Part No. M24308/	Part No.
1	9	**.125** 3.18	23-25	1757836-1	23-25F	1218434-1
2	15	**.125** 3.18	23-26	1757836-2	23-26F	1218434-2
3	25	**.125** 3.18	23-27	1757836-3	23-27F	1218434-3
4	37	**.125** 3.18	23-28	1757836-4	23-28F	1218434-4
5	50	**.125** 3.18	23-29	1757836-5	23-29F	1218434-5
1	9	**.156** 3.96	23-31	1757838-1	23-31F	1218408-1
2	15	**.156** 3.96	23-32	1757838-2	23-32F	1218408-2
3	25	**.156** 3.96	23-33	1757838-3	23-33F	1218408-3
4	37	**.156** 3.96	23-34	1757838-4	23-34F	1218408-4
5	50	**.156** 3.96	23-35	1757838-5	23-35F	1218408-5
1	9	**.188** 4.78	23-49	1757840-1	23-49F	1218437-1
2	15	**.188** 4.78	23-50	1757840-2	23-50F	1218437-2
3	25	**.188** 4.78	23-51	1757840-3	23-51F	1218437-3
4	37	**.188** 4.78	23-52	1757840-4	23-52F	1218437-4
5	50	**.188** 4.78	23-53	1757840-5	23-53F	1218437-5

Receptacle Assemblies — .040 [1.02] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Zinc Plated Shells		Cadmium Plated Shells	
			Military Part No. M24308/	Part No.	Military Part No. M24308/	Part No.
1	9	**.125** 3.18	23-37	1757842-1	23-37F	1218435-1
2	15	**.125** 3.18	23-38	1757842-2	23-38F	1218435-2
3	25	**.125** 3.18	23-39	1757842-3	23-39F	1218435-3
4	37	**.125** 3.18	23-40	1757842-4	23-40F	1218435-4
5	50	**.125** 3.18	23-41	1757842-5	23-41F	1218435-5
1	9	**.156** 3.96	23-43	1757844-1	23-43F	1218436-1
2	15	**.156** 3.96	23-44	1757844-2	23-44F	1218436-2
3	25	**.156** 3.96	23-45	1757844-3	23-45F	1218436-3
4	37	**.156** 3.96	23-46	1757844-4	23-46F	1218436-4
5	50	**.156** 3.96	23-47	1757844-5	23-47F	1218436-5
1	9	**.188** 4.78	23-55	1757846-1	23-55F	1218438-1
2	15	**.188** 4.78	23-56	1757846-2	23-56F	1218438-2
3	25	**.188** 4.78	23-57	1757846-3	23-57F	1218438-3
4	37	**.188** 4.78	23-58	1757846-4	23-58F	1218438-4
5	50	**.188** 4.78	23-59	1757846-5	23-59F	1218438-5

Note: The suffix "F" on M24308 part numbers designates cadmium shell plating.

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

Dimensions are in millimeters unless otherwise specified.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Right-Angle, PCB Plugs, Series 109, Standard Density Connectors (Industrial Grade)

Material and Finish

Shell — Steel, see below

1 Tin Plated RoHS Compliant Finish — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

2 Zinc Plated RoHS Compliant Finish — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

Insert and Post Spacer — Approved material per MIL-DTL-24308

Contact — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

Related Product Data

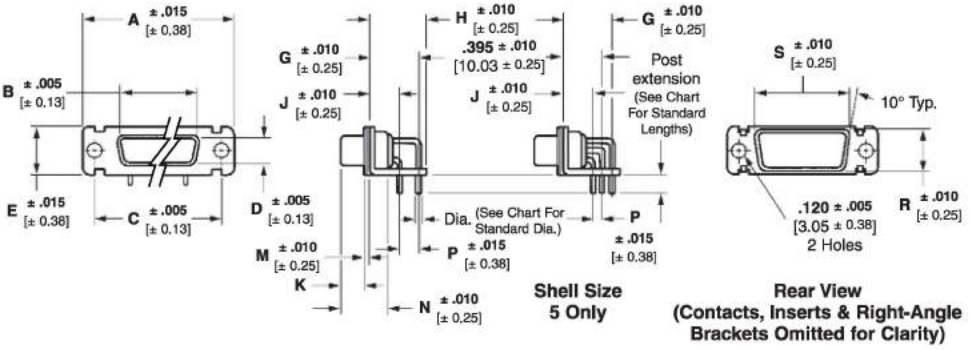
Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97

PCB Layouts — See page 8-91 or TE Connectivity customer drawing.

Product Specification — 108-1770



MS Shell Size	Connector Style	Dimensions													
		A	B	C	D	E	G	H	J	K	M	N	P	R	S
1	Plug	1.213 30.81	.666 16.92	.984 24.99	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.238/.229 6.04/5.81	.030 0.76	.422 10.72	.112 2.84	.422 10.72	.759 19.28
2	Plug	1.541 39.14	.994 25.25	1.312 33.33	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.238/.229 6.04/5.81	.030 0.76	.422 10.72	.112 2.84	.422 10.72	1.083 27.51
3	Plug	2.088 53.04	1.534 38.96	1.852 47.04	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.236/.224 5.99/5.68	.039 0.99	.426 10.82	.112 2.84	.422 10.72	1.625 29.59
4	Plug	2.729 69.32	2.182 55.42	2.500 63.5	.329 8.36	.494 12.55	.395 10.03	.484 12.29	.283 7.19	.236/.224 5.99/5.68	.039 0.99	.426 10.82	.112 2.84	.422 10.72	2.272 57.71
5	Plug	2.635 66.93	2.079 52.81	2.406 61.11	.441 10.44	.605 15.37	.507 12.88	.594 15.09	.283 7.19	.236/.224 5.99/5.68	.039 0.99	.426 10.82	.112 2.84	.534 13.56	2.178 55.32

Plug Assemblies — .030 [0.76] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Part Number	
			Tin Plated Shells[1]	Zinc Plated RoHS Shells[2]
1	9	.125 3.18	1218830-1	1218831-1
2	15	.125 3.18	1218830-2	1218831-2
3	25	.125 3.18	1218830-3	1218831-3
4	37	.125 3.18	1218830-4	1218831-4
5	50	.125 3.18	1218830-5	1218831-5
1	9	.156 3.96	1218832-1	1218833-1
2	15	.156 3.96	1218832-2	1218833-2
3	25	.156 3.96	1218832-3	1218833-3
4	37	.156 3.96	1218832-4	1218833-4
5	50	.156 3.96	1218832-5	1218833-5
1	9	.188 4.78	1218838-1	1218839-1
2	15	.188 4.78	1218838-2	1218839-2
3	25	.188 4.78	1218838-3	1218839-3
4	37	.188 4.78	1218838-4	1218839-4
5	50	.188 4.78	1218838-5	1218839-5

3 See Zinc Plated RoHS compliant finish above.

Plug Assemblies — .040 [1.02] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Part Number	
			Tin Plated Shells[1]	Zinc Plated RoHS Shells[2]
1	9	.125 3.18	1218834-1	1218835-1
2	15	.125 3.18	1218834-2	1218835-2
3	25	.125 3.18	1218834-3	1218835-3
4	37	.125 3.18	1218834-4	1218835-4
5	50	.125 3.18	1218834-5	1218835-5
1	9	.156 3.96	—	1218837-1
2	15	.156 3.96	—	1218837-2
3	25	.156 3.96	—	1218837-3
4	37	.156 3.96	—	1218837-4
5	50	.156 3.96	—	1218837-5
1	9	.188 4.78	1218840-1	1218841-1
2	15	.188 4.78	1218840-2	1218841-2
3	25	.188 4.78	1218840-3	1218841-3
4	37	.188 4.78	1218840-4	1218841-4
5	50	.188 4.78	1218840-5	1218841-5

2 See Tin Plated RoHS compliant finish above.
3 See Zinc Plated RoHS compliant finish above.

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

Dimensions are in millimeters unless otherwise specified.

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For additional support numbers please visit www.te.com

AMPLIMITE Connectors, Series 109 (Continued)

Right-Angle, PCB Receptacles, Series 109, Standard Density Connectors (Industrial Grade)

Material and Finish

Shell — Steel, see below for finish options

Tin Plated RoHS Compliant Finish — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

Zinc Plated RoHS Compliant — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

Insert and Post Spacer — Approved material per MIL-DTL-24308

Contacts —

Socket Body — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[a]**Mating Area** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[b]**Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

Related Product Data

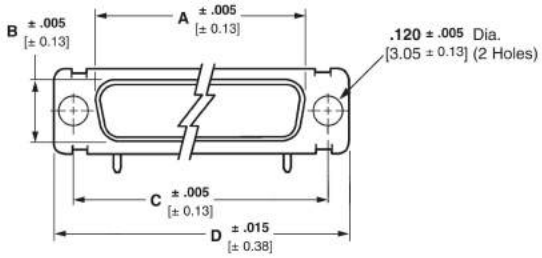
Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

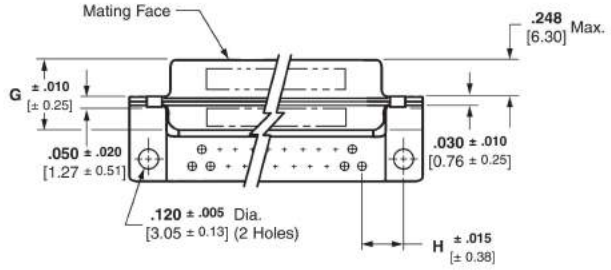
Accessories — pages 8-95 to 8-97

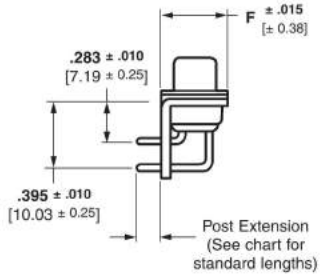
PCB Layouts — See page 8-91 or TE Connectivity customer drawing.

Product Specification — 108-1770

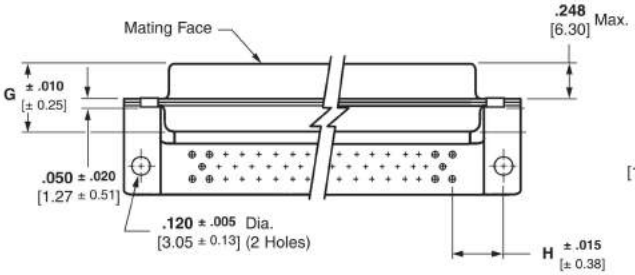


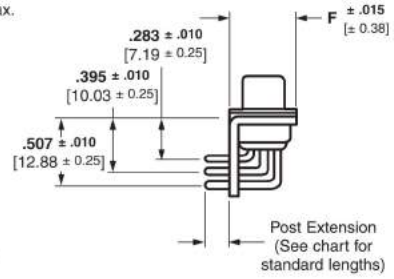
9, 15, 25 and 37 Positions





50 Positions





Receptacle Assemblies

No. of Contact Pos. (Shell Size)	Dimensions						
	A (Outside)	B (Outside)	C	D	F	G	H
9 (1)	**.643** 16.33	**.311** 7.9	**.984** 24.99	**1.213** 30.81	**.494** 12.55	**.429** 10.97	**.276** 7.01
15 (2)	**.971** 24.66	**.311** 7.9	**1.312** 33.32	**1.541** 39.14	**.494** 12.55	**.429** 10.97	**.278** 7.06
25 (3)	**1.511** 38.38	**.311** 7.9	**1.852** 47.04	**2.088** 53.04	**.494** 12.55	**.429** 10.97	**.274** 6.96
37 (4)	**2.159** 54.84	**.311** 7.9	**2.500** 63.5	**2.729** 69.32	**.494** 12.55	**.429** 10.97	**.272** 6.91
50 (5)	**2.064** 52.43	**.423** 10.74	**2.406** 61.11	**2.635** 66.93	**.605** 15.37	**.429** 10.97	**.333** 8.46

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Revised 9-14

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AMPLIMITE Connectors, Series 109 (Continued)

Right-Angle, PCB Receptacles, Series 109, Standard Density Connectors (Industrial Grade) (Continued)

Material and Finish

Shell — Steel

Insert and Post Spacer — Approved material per MIL-DTL-24308

Contacts —

Socket Body — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[a]**Mating Area** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[b]**Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

Related Product Data

Cavity Identification — page 8-39

Mounting, Mating Specifications — page 8-90

Accessories — pages 8-95 to 8-97

PCB Layouts — See page 8-91 or TE Connectivity customer drawing.

Product Specification — 108-1770

Receptacle Assemblies — .030 [0.76] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Part Number		
			Tin Plated Shells[b]	Tin Plated Shells[a]	Zinc Plated Shells[a]
1	9	.125 3.18	1218842-1	1218844-1	1218843-1
2	15	.125 3.18	1218842-2	1218844-2	1218843-2
3	25	.125 3.18	1218842-3	1218844-3	1218843-3
4	37	.125 3.18	1218842-4	1218844-4	1218843-4
5	50	.125 3.18	1218842-5	1218844-5	1218843-5
1	9	.156 3.96	1218845-1	1218847-1	1218846-1
2	15	.156 3.96	1218845-2	1218847-2	1218846-2
3	25	.156 3.96	1218845-3	1218847-3	1218846-3
4	37	.156 3.96	1218845-4	1218847-4	1218846-4
5	50	.156 3.96	1218845-5	1218847-5	1218846-5
1	9	.188 4.78	1218854-1	1218856-1	1218855-1
2	15	.188 4.78	1218854-2	1218856-2	1218855-2
3	25	.188 4.78	1218854-3	1218856-3	1218855-3
4	37	.188 4.78	1218854-4	1218856-4	1218855-4
5	50	.188 4.78	1218854-5	1218856-5	1218855-5

Receptacle Assemblies — .040 [1.02] Post Dia.

Shell Size	No. Pos.	Post Ext. ± .020 [± 0.51]	Part Number		
			Tin Plated Shells[b]	Tin Plated Shells[a]	Zinc Plated Shells[a]
1	9	.125 3.18	1218848-1	1218850-1	1218849-1
2	15	.125 3.18	1218848-2	1218850-2	1218849-2
3	25	.125 3.18	1218848-3	1218850-3	1218849-3
4	37	.125 3.18	1218848-4	1218850-4	1218849-4
5	50	.125 3.18	1218848-5	1218850-5	1218849-5
1	9	.156 3.96	—	—	1218852-1
2	15	.156 3.96	—	—	1218852-2
3	25	.156 3.96	—	—	1218852-3
4	37	.156 3.96	—	—	1218852-4
5	50	.156 3.96	—	—	1218852-5
1	9	.188 4.78	1218857-1	1218859-1	1218858-1
2	15	.188 4.78	1218857-2	1218859-2	1218858-2
3	25	.188 4.78	1218857-3	1218859-3	1218858-3
4	37	.188 4.78	1218857-4	1218859-4	1218858-4
5	50	.188 4.78	1218857-5	1218859-5	1218858-5

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AMPLIMITE Connectors, Series 109 (Continued)

Right-Angle, PCB Plugs, Series 109, with One Piece Insert (Industrial Grade)

Material and Finish

Shell — Steel, see below

[1] **Tin Plated Finish** — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

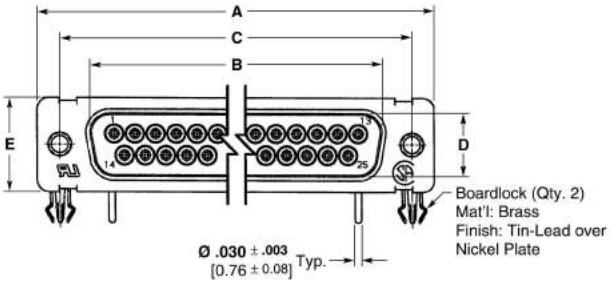
[2] **Zinc Plated RoHS Compliant Finish** — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

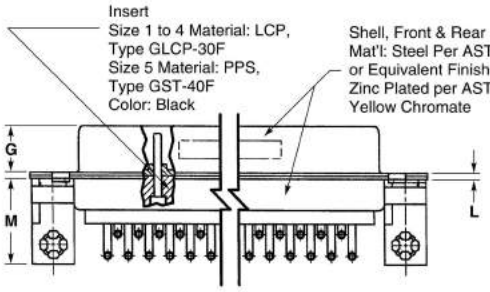
Insert — Thermoplastic

Contact Material — Brass or Beryllium copper

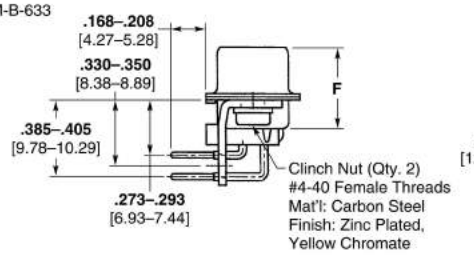
Contact Finish — Gold with .000010 [0.00025] min. gold plate over .000050 [0.00127] min. nickel underplate

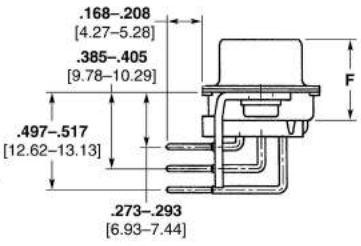
Interfacial Seal — Fluorosilicone

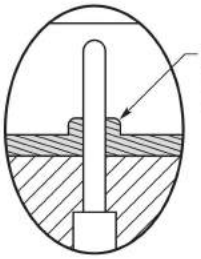




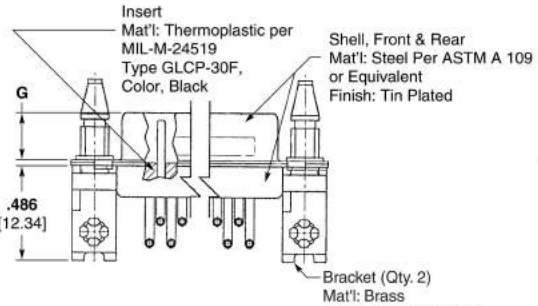
3 and 5 Positions (with Interfacial Seal)

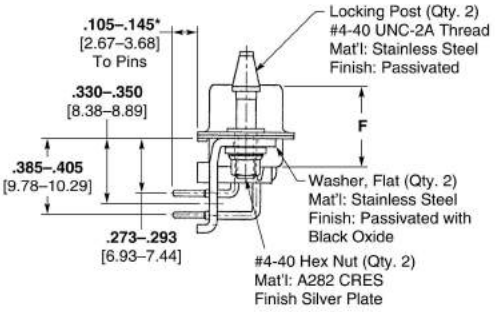






9 Position (with Locking Post)





*Signal Contacts are solder dipped with SnPb 63/37 to meet the requirements of MIL-DTL-24308, method 208.

MS Shell Size	Connector Style	Dimensions										
		A	B	C	D	E	F	G	H	J	L	M
1	Plug	**1.198/1.228** 30.43/31.19	**.661/.671** 16.21/16.46	**.979/.989** 24.87/25.12	**.324/.334** 8.23/8.48	**.479/.509** 12.17/12.93	**.412/.432** 10.46/10.97	**.229/.238** 5.82/6.05	**.749/.769** 19.02/19.53	**.412/.432** 10.46/10.97	**.020/.040** 0.51/1.02	—
3	Plug	**2.073/2.103** 52.65/53.42	**1.529/1.539** 38.25/38.51	**1.847/1.857** 46.91/47.17	**.324/.334** 8.23/8.48	**.479/.509** 12.17/12.93	**.416/.436** 10.57/11.07	**.224/.236** 5.69/5.99	**1.615/1.635** 41.02/41.53	**.412/.432** 10.46/10.97	**.029/.049** 0.74/1.24	**.435/.443** 11.05/11.25
5	Plug	**2.620/2.650** 66.55/67.31	**2.074/2.084** 52.30/52.55	**2.401/2.411** 60.99/61.24	**.436/.446** 11.07/11.33	**.590/.620** 14.99/15.75	**.416/.436** 10.57/11.07	**.224/.236** 5.69/5.99	**2.168/2.188** 55.07/55.58	**.524/.544** 13.31/13.82	**.029/.049** 0.74/1.24	**.490/.498** 12.45/12.65

Plug Assemblies — .030 [0.76] Post Dia.

Shell Size	No. Pos.	With interfacial Seal	Part Number	
			Tin Plated Shells[1]	Zinc Plated RoHS Shells[2]
1	9	No	1218606-6	—
3	25	Yes	—	1218538-3
5	50	Yes	—	1218538-5

[1] See Material and Finish above.
[2] See RoHS compliant Material and Finish above.

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AMPLIMITE Connectors, Series 109 (Continued)

Right-Angle, PCB Receptacles, Series 109, with One Piece Insert (Industrial Grade)

Material and Finish

Shell — Steel, tin plated

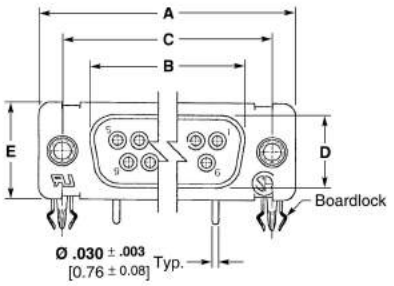
[1] Tin Plated RoHS Compliant Finish — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

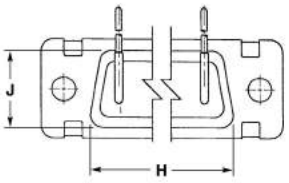
Insert — Thermoplastic

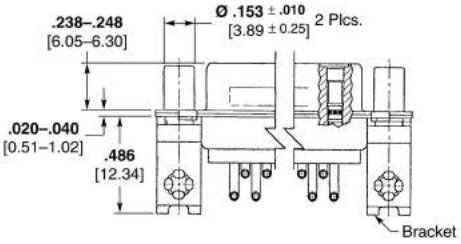
Contact Material — Brass or Beryllium copper

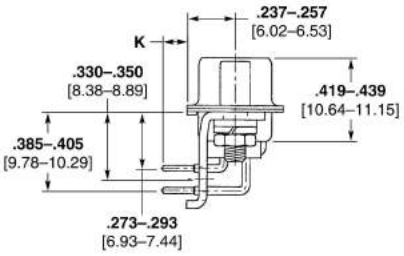
Contact Finish — Gold with .000010 [0.00025] min. gold over .000050 [0.00127] min. nickel underplate

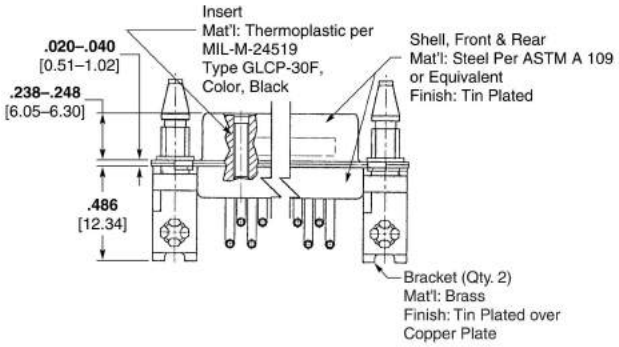
9 Position



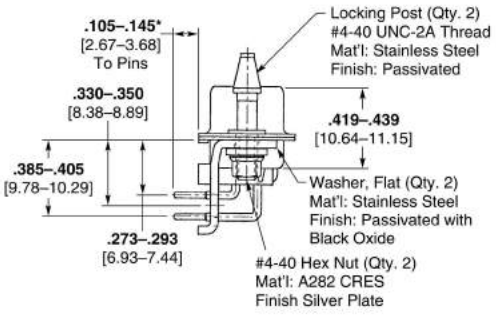








9 Position (with Locking Post)



*Signal Contacts are solder dipped with SnPb 63/37 to meet the requirements of MIL-DTL-24308, method 208.

MS Shell Size	Connector Style	Dimensions								Part Number
		A	B	C	D	E	H	J	K	
1	Receptacle	**1.198/1.228** 30.43/31.19	**.638/.648** 16.21/16.46	**.979/.989** 24.87/25.12	**.306/.316** 7.77/8.03	**.479/.509** 12.17/12.93	**.749/.769** 19.02/19.53	**.412/.432** 10.46/10.97	**.105/.145** 2.67/3.68	1218665-1[1]
									.136/.176 3.45/4.47	1218665-6[1]
							.749/.769 19.02/19.53	**.412/.432** 10.46/10.97	—	1218607-6[1]

[1] See Material and Finish above.
[2] See RoHS compliant Material and Finish above.

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AMPLIMITE Connectors, Series 109 (Continued)

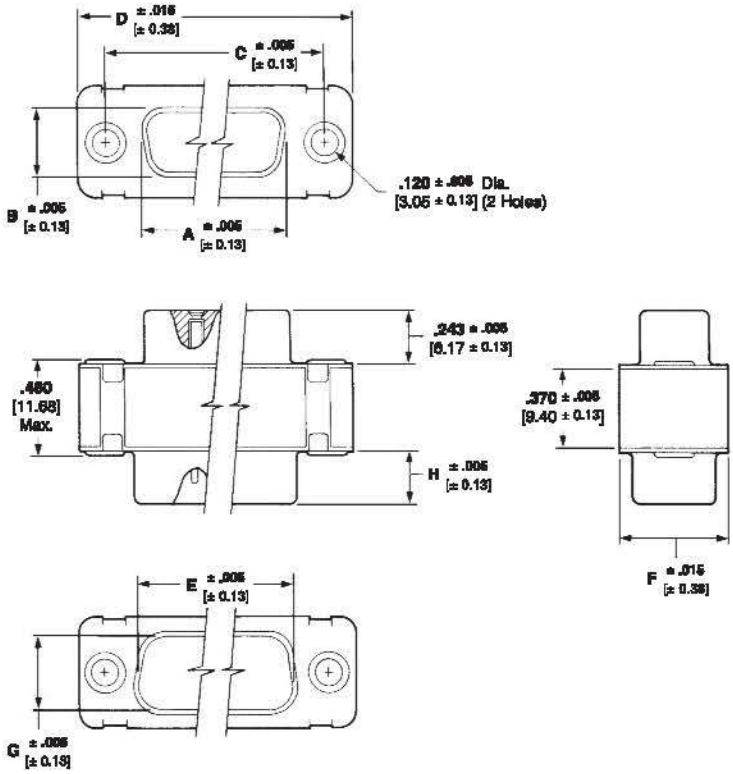
Connector Savers, Series 109, Standard Density

Connector savers prolong the life of permanently installed connectors which would otherwise be subjected to repeated cycles of mating and unmating, in applications such as test interfaces or on testing devices.

Material and Finish

Standard —
Shell — Steel, cadmium plated
Contact Body — Beryllium copper with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate
Socket Hood — Passivated stainless steel
Insert — Glass filled polyester
Spacer — Black nylon

Non Magnetic —
Shell — Brass, gold plated
Contact Body — Beryllium copper with .000050 [0.00127] min. gold plate over .000100 [0.00254] min. copper underplate
Socket Hood — Brass with .000050 [0.00127] min. gold over .000100 [0.00254] min. copper underplate
Insert — Glass filled polyester
Spacer — Black nylon



No. of Contact Pos. (Shell Size)	Dimensions							
	A (outside)	B (outside)	C	D	E (inside)	F	G (inside)	H
9 (1)	.643 16.33	.311 7.9	.984 24.99	1.213 30.81	.666 16.92	.494 12.55	.329 8.36	.235 5.97
15 (2)	.971 24.66	.311 7.9	1.312 33.32	1.541 39.14	.994 25.25	.494 12.55	.329 8.36	.235 5.97
25 (3)	1.511 38.38	.311 7.9	1.852 47.04	2.088 53.04	1.534 38.96	.494 12.55	.329 8.36	.230 5.84
37 (4)	2.159 54.84	.311 7.9	2.500 63.5	2.729 69.32	2.182 55.42	.494 12.55	.329 8.36	.230 5.84
50 (5)	2.064 52.43	.423 10.74	2.406 61.11	2.635 66.93	2.079 52.81	.605 15.37	.441 11.20	.230 5.84

No. of Contact Pos. (Shell Size)	Standard (Cadmium Plated Steel Shell)	Non-Magnetic (Gold Plated Brass Shell)
9 (1)	212558-1	212559-2
15 (2)	212560-1	212560-2
25 (3)	212561-1	212561-2
37 (4)	212562-1	212562-2
50 (5)	212563-1	212563-2

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AMPLIMITE Connectors, Series 109 Cross Reference

Material and Finish

Shell — Steel, tin plated per ASTM-B-545, .000400–.000550 [0.01016–0.01397] thick.

Insert — Approved material per MIL-DTL-24308.

Retention Clips — Stainless steel or copper alloy.

Related Product Data

Series 109 Connectors — page 8-43

Attention: Connector Marking

Connector marking may differ from package marking.

Note: Meets 48 hr. salt spray requirements of MIL-DTL-24308.

Series 109 Connectors

No. of Contact Pos. (Shell Size)	Part Number	Description	Dimensions
9 (1)	205162-6	Plug Only	Refer to page 8-43
	205162-5	Plug Only with Grounding Indents	
	205161-5	Receptacle Only	
15 (2)	205164-6	Plug Only	Refer to page 8-43
	205164-5	Plug Only with Grounding Indents	
	205163-5	Receptacle Only	
25 (3)	205166-5	Plug Only	Refer to page 8-43
	205166-4	Plug Only with Grounding Indents	
	205165-4	Receptacle Only	
37 (4)	205168-7	Plug Only	Refer to page 8-43
	205168-6	Plug Only with Grounding Indents	
	205167-5	Receptacle Only	
50 (5)	205170-5	Plug Only	Refer to page 8-43
	205170-4	Plug Only with Grounding Indents	
	205169-4	Receptacle Only	

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