

INCH-POUND

MIL-DTL-24308/35A
29 September 2022
SUPERSEDING
MIL-DTL-24308/35
w/AMENDMENT 1
20 November 2019

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRIC, RECTANGULAR, MINIATURE,
COMBINATION INSERT ARRANGEMENT, PLUG, PIN CONTACTS, SHELL SIZE 4,
SIZE 20 SIGNAL CONTACTS AND SIZE 8 POWER AND SHIELDED,
CLASS G, M, N AND D, PRINTED WIRING BOARD TYPES

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-24308.

AMSC N/A
DISTRIBUTION STATEMENT A. Approved for public release. Distribution is unlimited.

FSC 5935



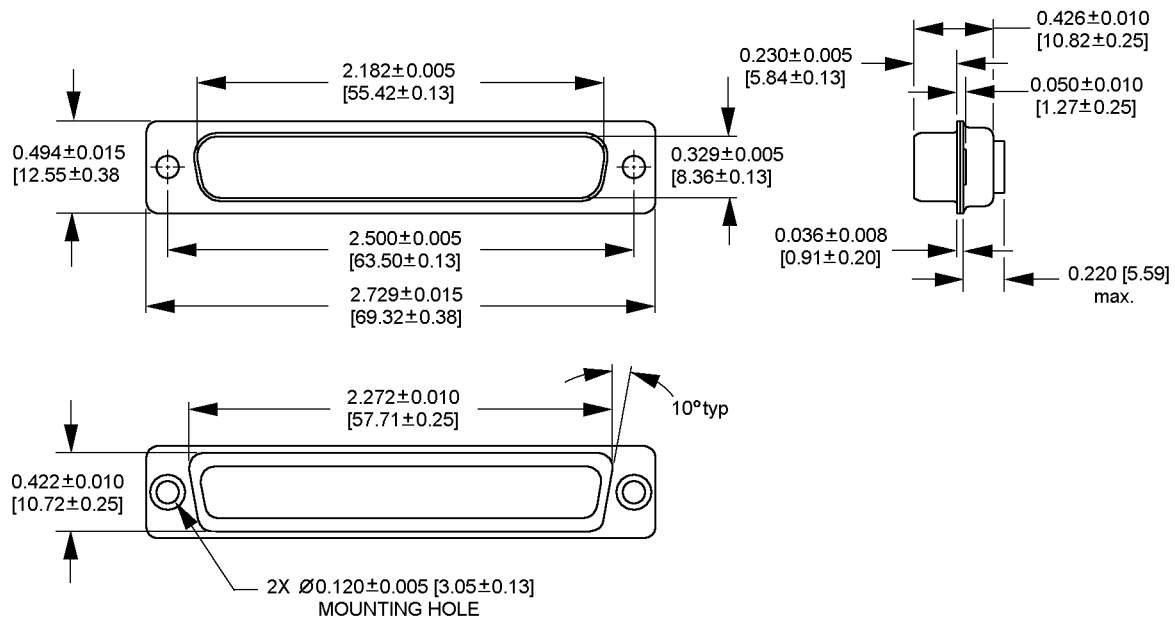
MIL-DTL-24308/35A



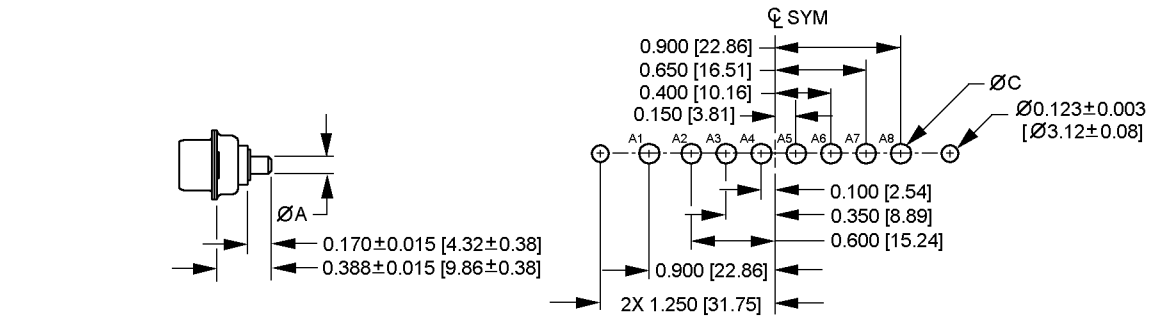
FIGURE 1. Insert arrangements, shell size 4, pin contacts.

NOTES:

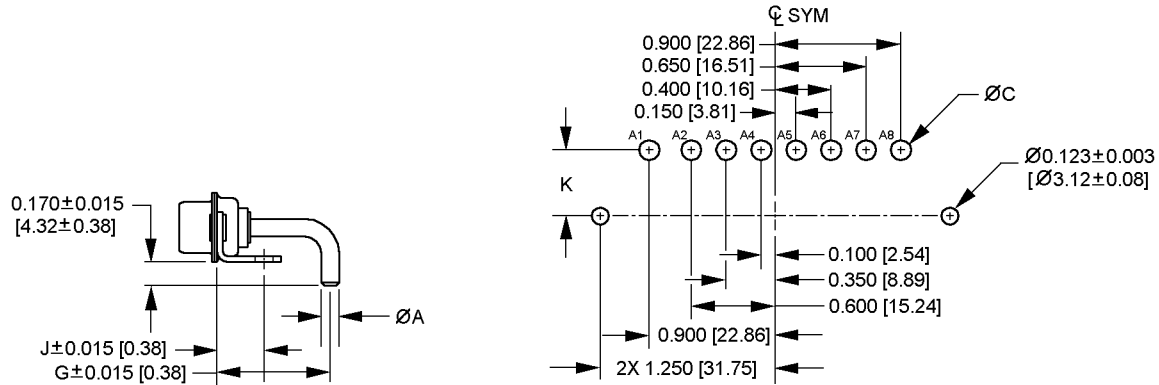
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerance for three place decimals is ± 0.005 inch (0.13 mm).
4. All dimensions are true position (TP).
5. Contact holes in insert shall be located on TP within a .005 inch (0.13 mm) diameter circle.
6. Reference documents shall be of the issue in effect on date of invitations for bid.
7. 2WK2 have 1 pin and 1 socket contacts. Socket contact shall be loaded in A1 position.

FIGURE 1. Insert arrangements, shell size 4, pin contacts - Continued.FIGURE 2. Dimensions shell size 4, plug.

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M24308/35-001, -002, -007, -008

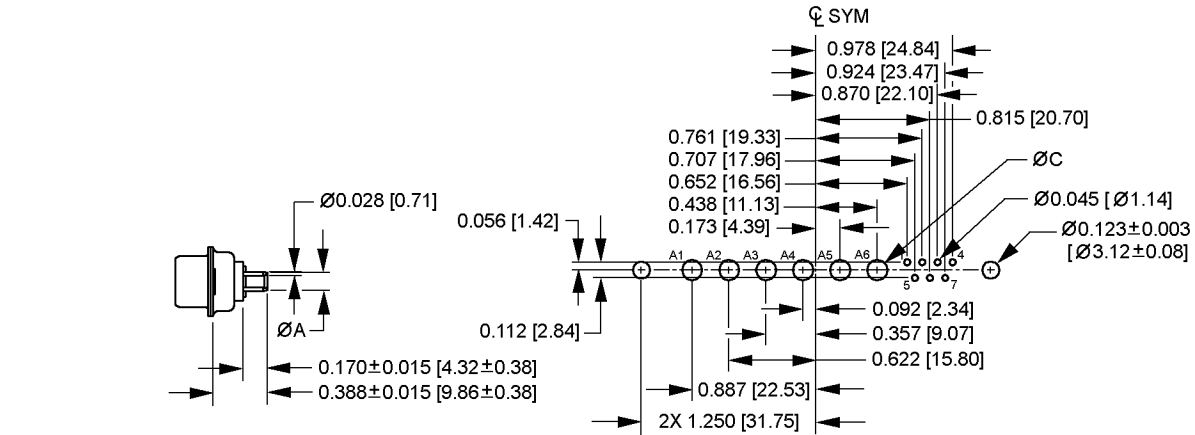


M24308/35-003, -004, -005, -006, -009, -010, -011, -012

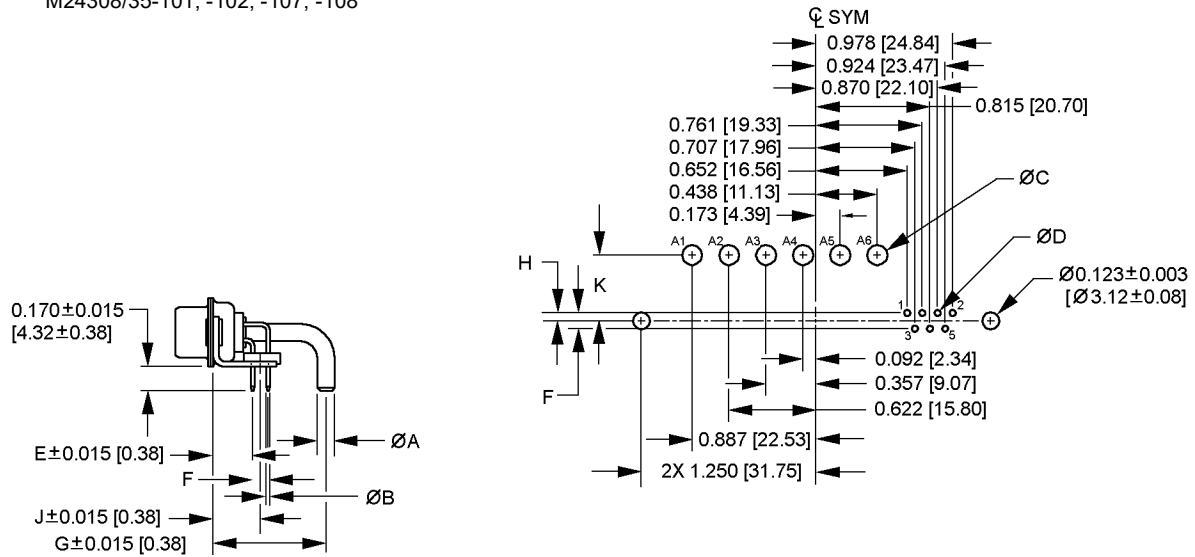
8W8

FIGURE 3. Terminations and layout arrangement for power connector, plug, printed wiring board type.

MIL-DTL-24308/35A



M24308/35-101, -102, -107, -108

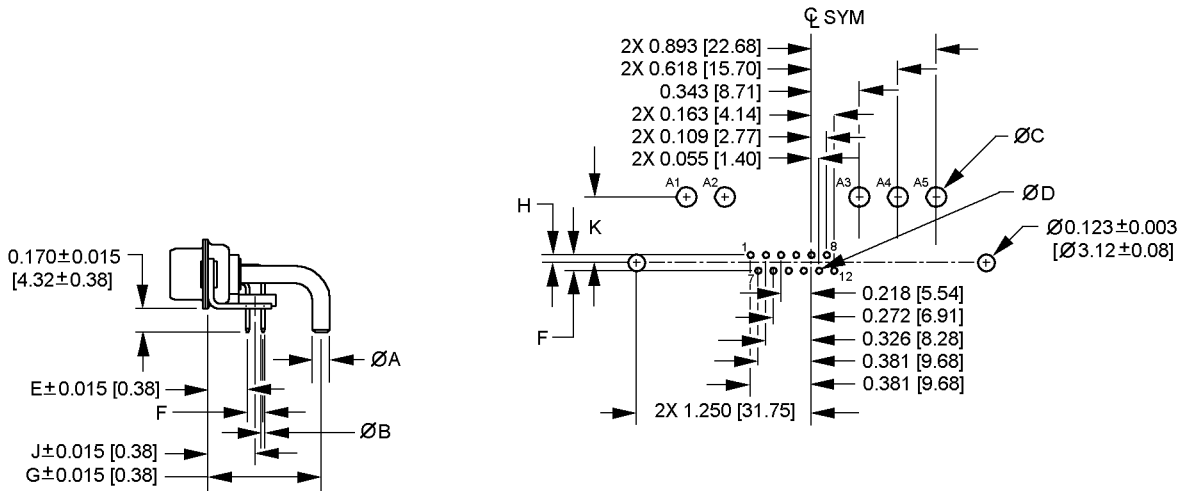
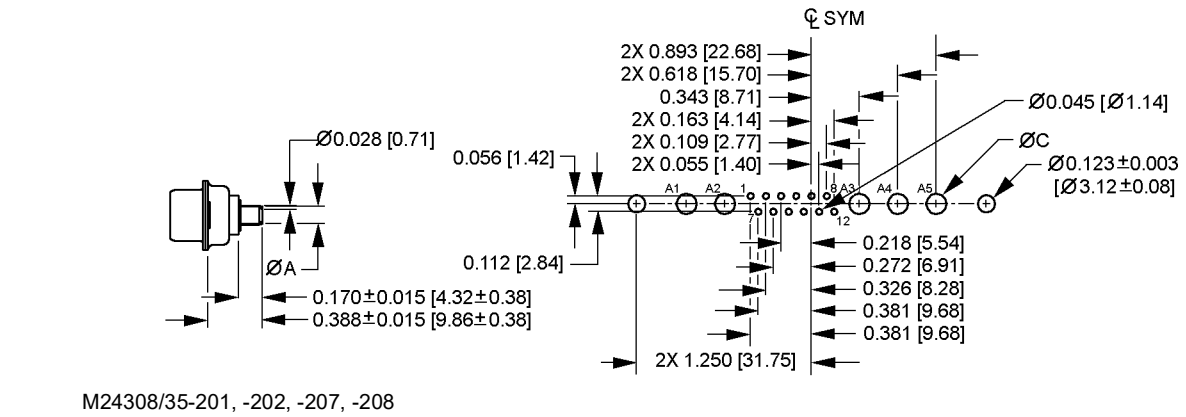


M24308/35-103, -104, -105, -106, -109, -110, -111, -112

13W6

FIGURE 3. Terminations and layout arrangement for power connector, plug, printed wiring board type - Continued.

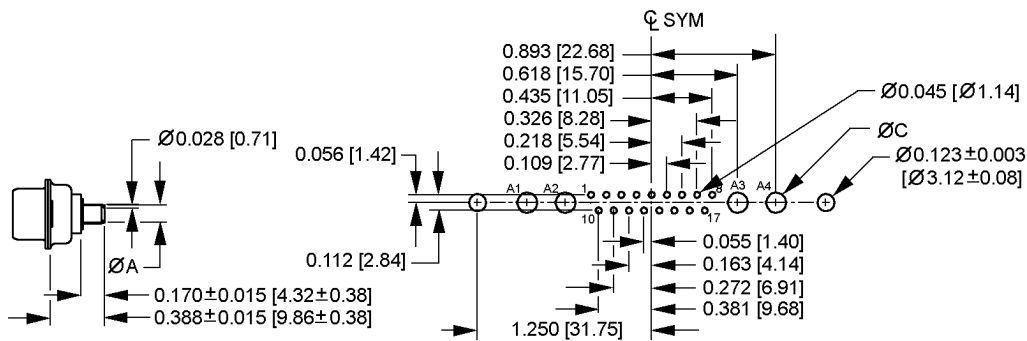
MIL-DTL-24308/35A



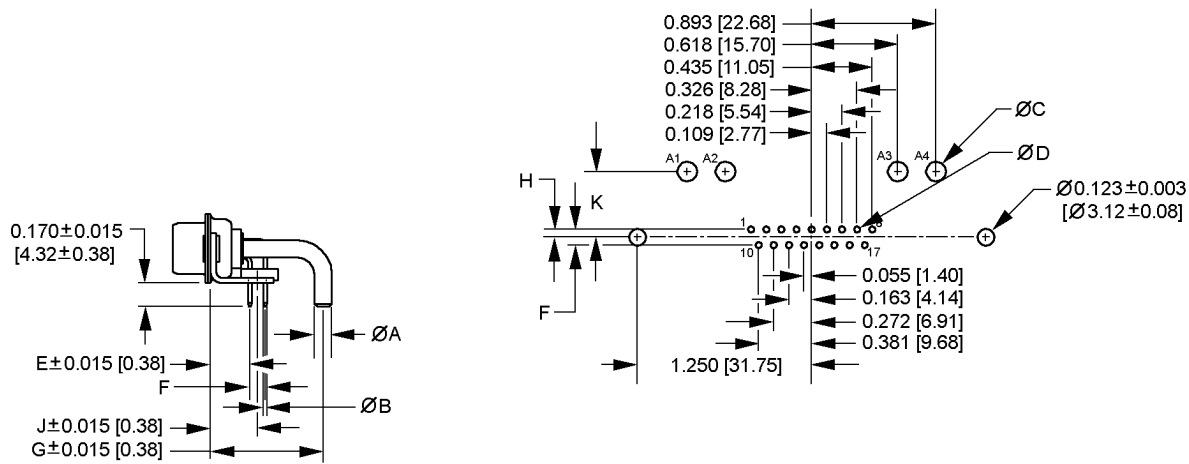
17W5

FIGURE 3. Terminations and layout arrangement for power connector, plug, printed wiring board type - Continued.

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M24308/35-301, -302, -307, -308

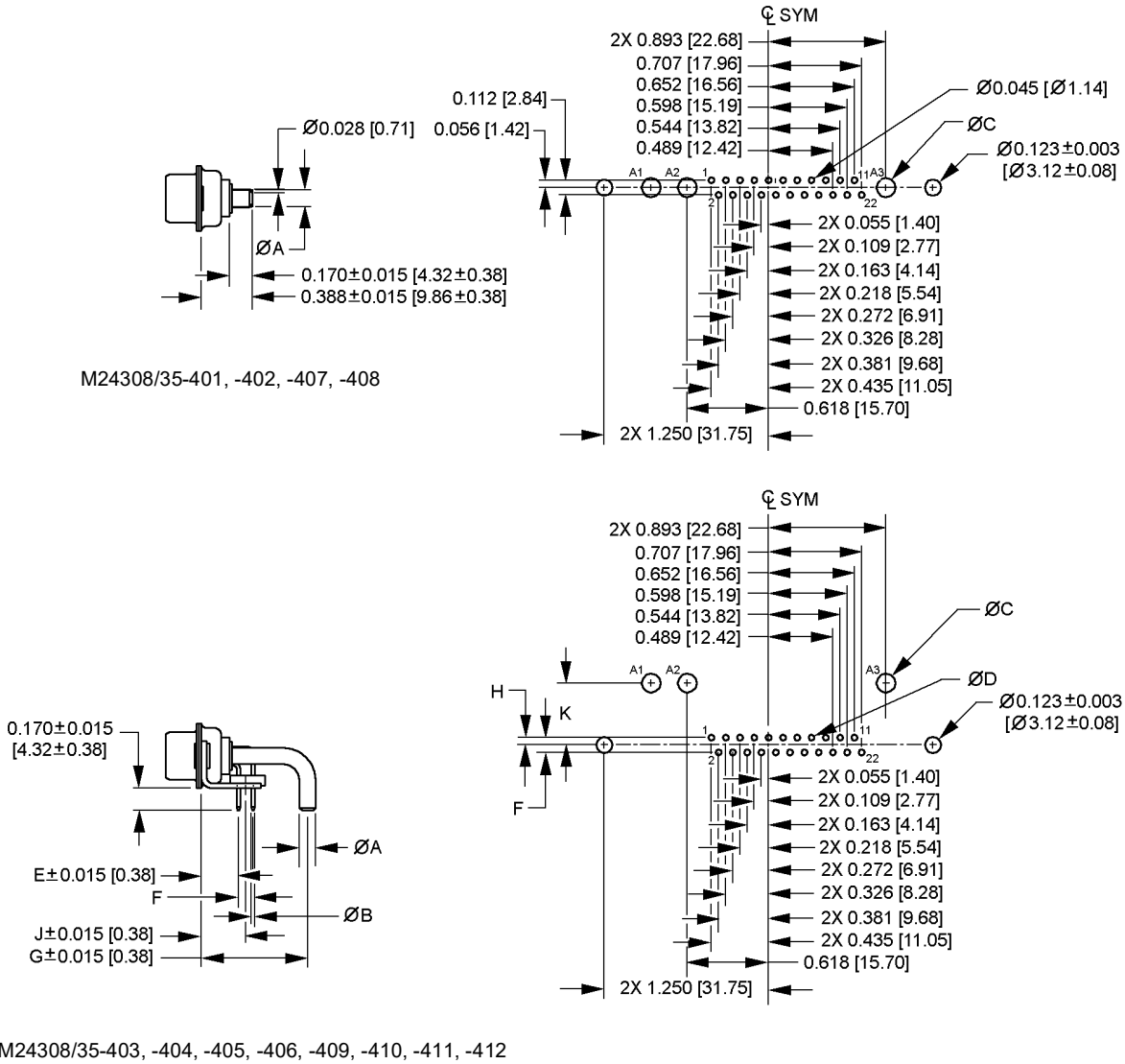


M24308/35-303, -304, -305, -306, -309, -310, -311, -312

21W4

FIGURE 3. Terminations and layout arrangement for power connector, plug, printed wiring board type - Continued.

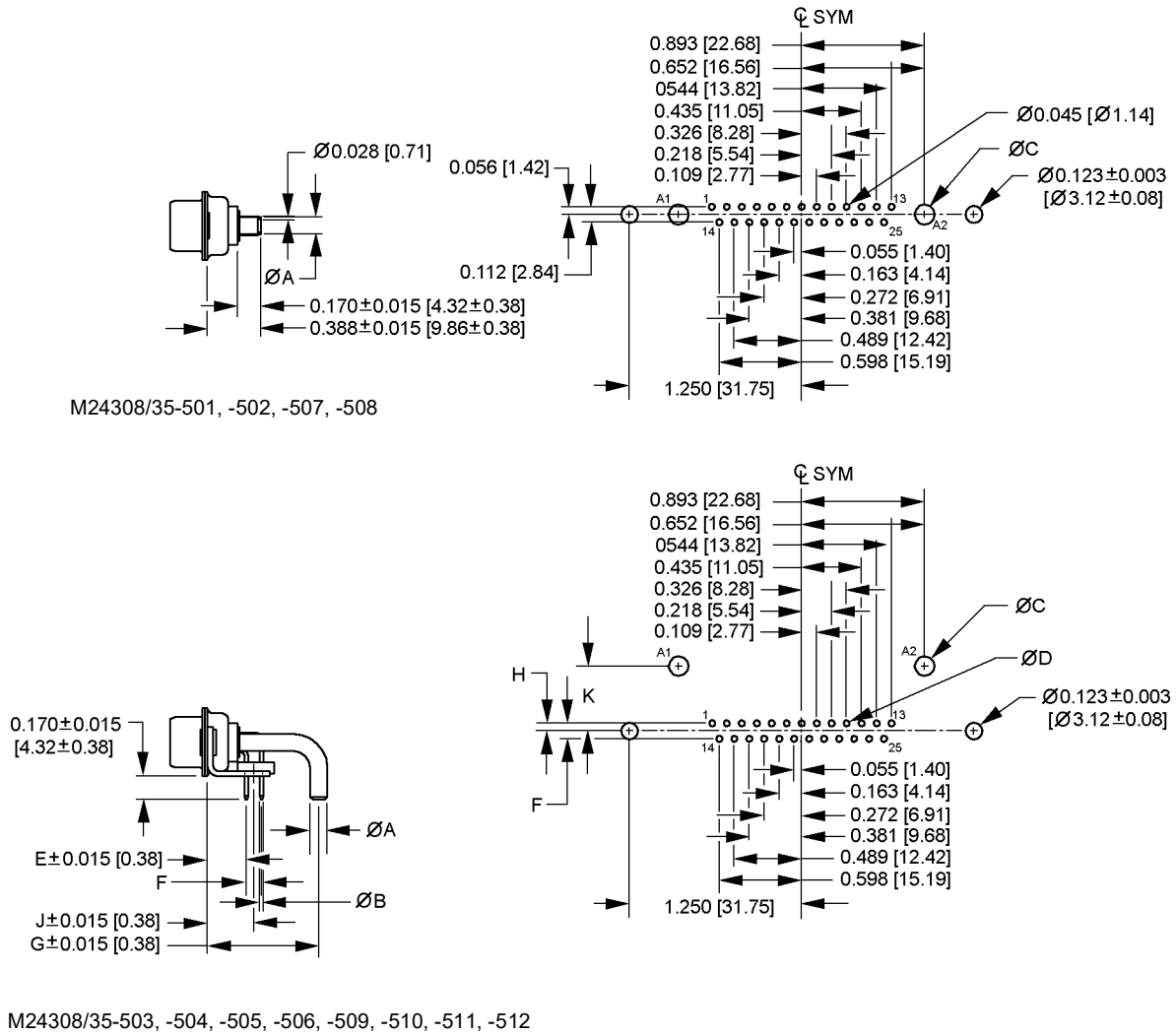
MIL-DTL-24308/35A



25W3

FIGURE 3. Terminations and layout arrangement for power connector plug, printed wiring board type - Continued.

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27W2

FIGURE 3. Terminations and layout arrangement for power connector, plug, printed wiring board type - Continued.

MIL-DTL-24308/35A

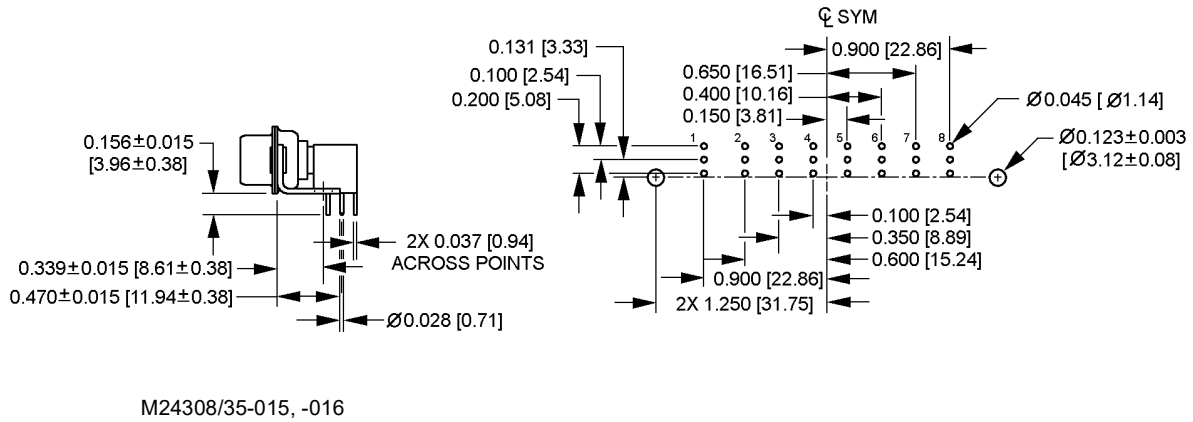
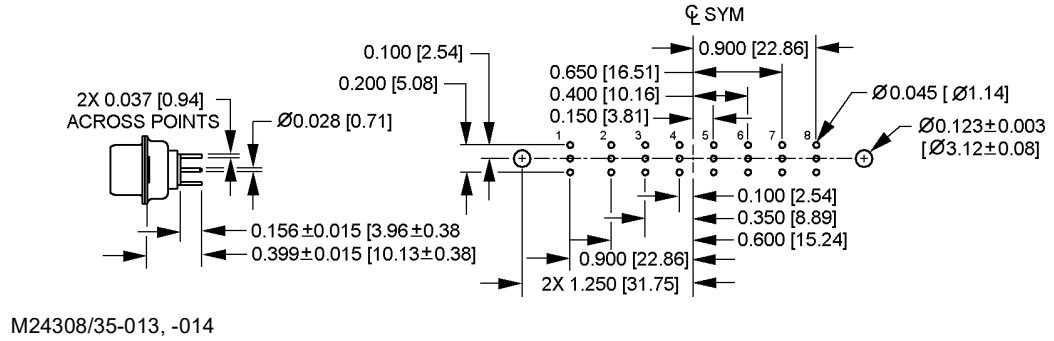
PIN M24308/35	ØA	ØB	ØC	D	E	F	G	H	J	K
-001, -002 -101, -102	0.078 (1.98)	---	0.098 (2.49)	---	---	---	---	---	---	---
-007, -008 -107, -108	0.125 (3.18)	---	0.145 (3.68)	---	---	---	---	---	---	---
-003, -004 -113, -114	0.078 (1.98)	---	0.098 (2.49)	---	---	---	0.339 (8.61)	---	0.339 (8.61)	0.000 (0.00)
-009, -010 -109, -110	0.125 (3.18)	---	0.145 (3.68)	---	---	---	0.810 (20.57)	---	0.339 (8.61)	0.471 (11.96)
-005, -006 -105, -106	0.078 (1.98)	---	0.098 (2.49)	---	---	---	0.420 (10.67)	---	0.420 (10.67)	0.000 (0.00)
-011, -012 -111, -112	0.125 (3.18)	---	0.145 (3.68)	---	---	---	0.810 (20.57)	---	0.420 (10.67)	0.390 (9.91)
-201, -202 -301, -302 -401, -402 -501, -502	0.078 (1.98)	0.028 (0.71)	0.098 (2.49)	0.045 (1.14)	---	---	---	---	---	---
-207, -208 -307, -308 -407, -408 -507, -508	0.125 (3.18)	0.028 (0.71)	0.145 (3.68)	0.045 (1.14)	---	---	---	---	---	---
-203, -204 -303, -304 -403, -404 -503, -504	0.078 (1.98)	0.028 (0.71)	0.098 (2.49)	0.045 (1.14)	0.283 (7.19)	0.112 (2.84)	0.339 (8.61)	0.056 (1.42)	0.339 (8.61)	0.000 (0.00)
-209, -110 -309, -310 -409, -410 -509, -510	0.125 (3.18)	0.028 (0.71)	0.145 (3.68)	0.045 (1.14)	0.283 (7.19)	0.112 (2.84)	0.810 (20.57)	0.056 (1.42)	0.339 (8.61)	0.471 (11.96)
-205, -206 -305, -306 -405, -406 -505, -506	0.078 (1.98)	0.024 (0.61)	0.098 (2.49)	0.040 (1.02)	0.370 (9.40)	0.100 (2.54)	0.420 (10.67)	0.050 (1.27)	0.420 (10.67)	0.000 (0.00)
-211, -212 -311, -312 -411, -412 -511, -512	0.125 (3.18)	0.024 (0.61)	0.145 (3.68)	0.040 (1.02)	0.370 (9.40)	0.100 (2.54)	0.810 (20.57)	0.050 (1.27)	0.420 (10.67)	0.390 (9.91)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerance for three place decimals is ± 0.005 inch (0.13 mm).

FIGURE 3. Terminations and layout arrangement for power connector plug, printed wiring board type - Continued.

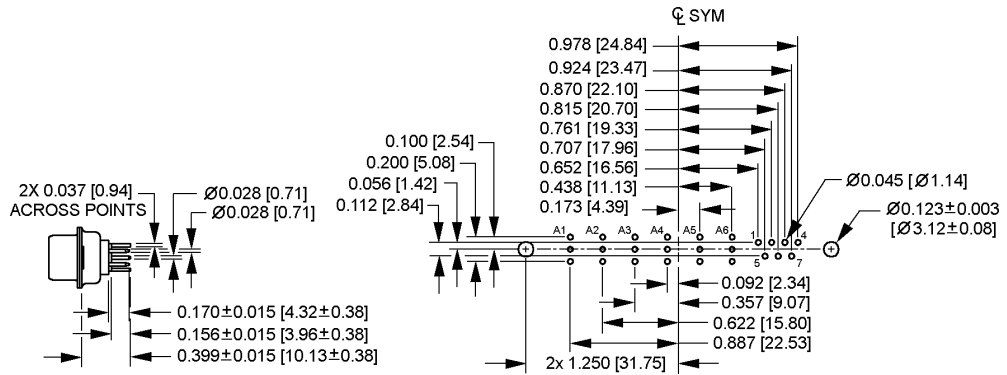
MIL-DTL-24308/35A



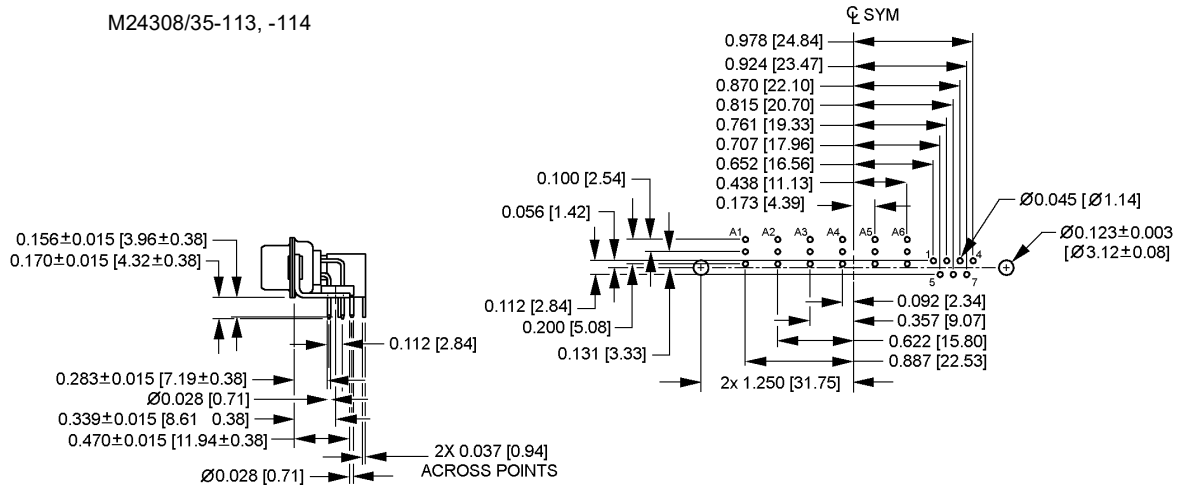
8W8

FIGURE 4. Terminations and layout arrangement for shielded connector, plug, printed wiring board type.

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M24308/35-113, -114

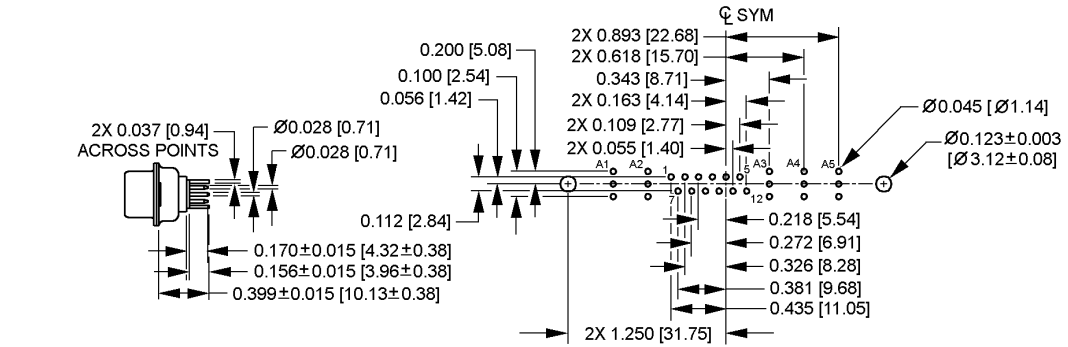


M24308/35-115, -116

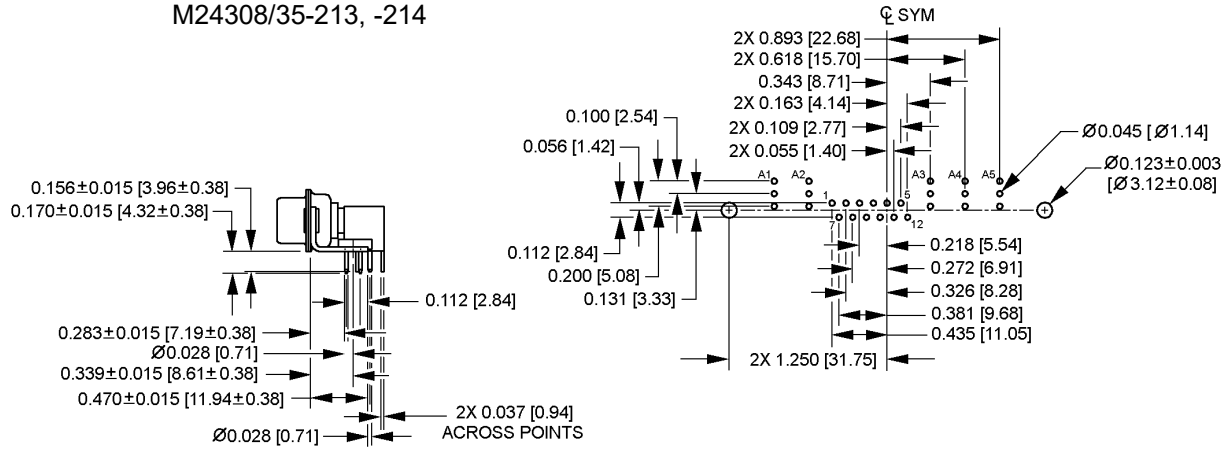
13W6

FIGURE 4. Terminations and layout arrangement for shielded connector, plug, printed wiring board type - Continued.

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M24308/35-213, -214

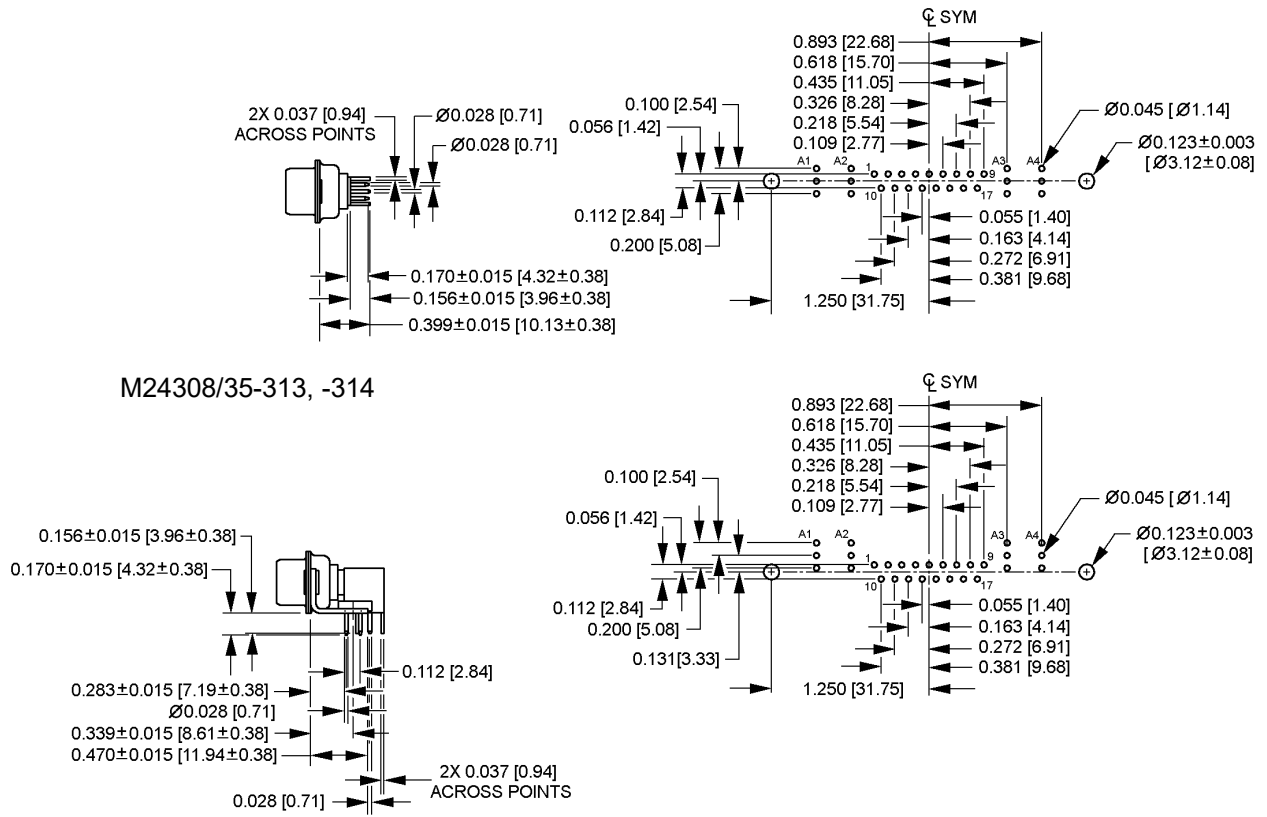


M24308/35-215, -216

17W5

FIGURE 4. Terminations and layout arrangement for shielded connector, plug, printed wiring board type - Continued.

MIL-DTL-24308/35A



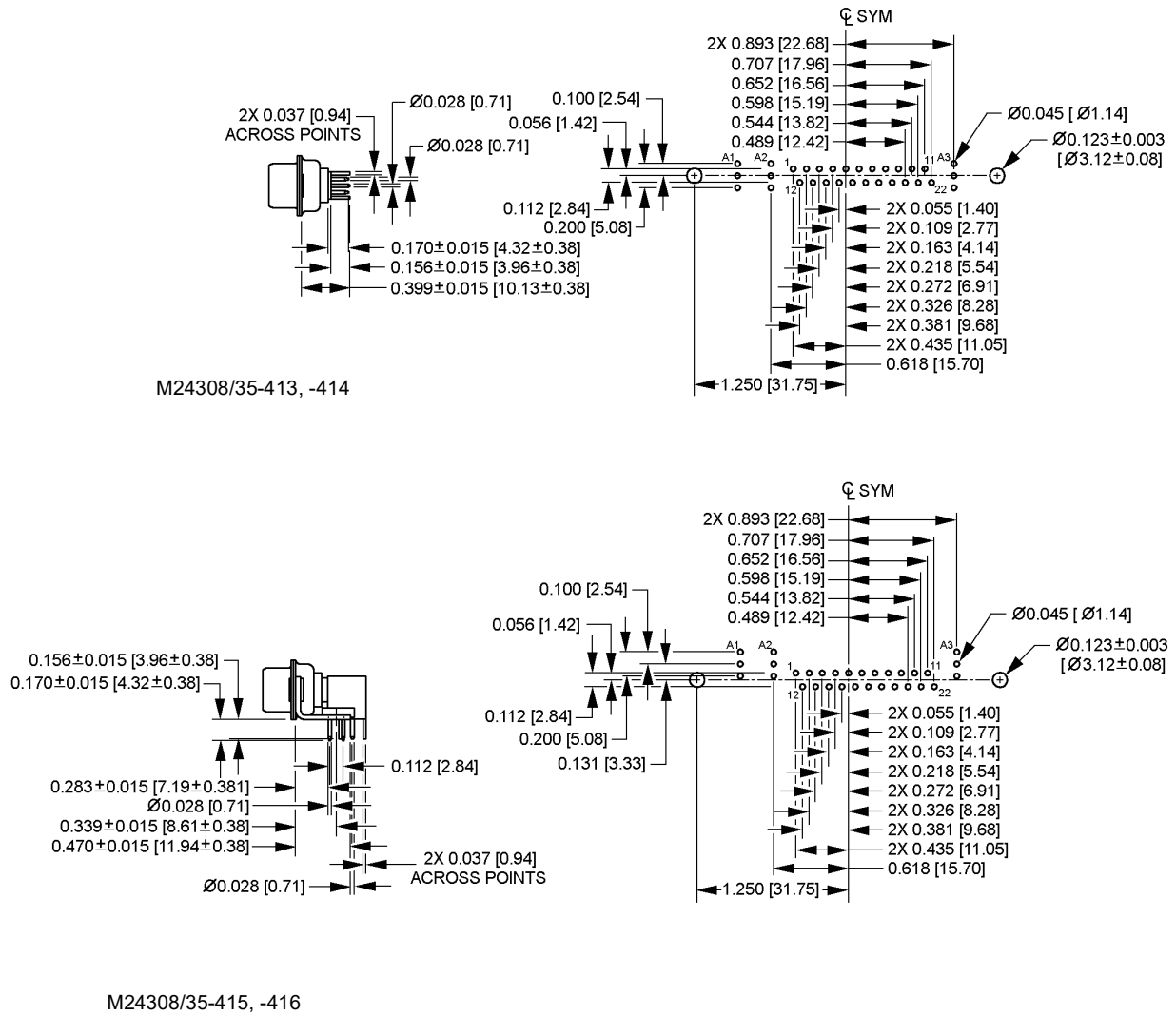
M24308/35-313, -314

M24308/35-315, -316

21W4

FIGURE 4. Terminations and layout arrangement for shielded connector, plug, printed wiring board type - Continued.

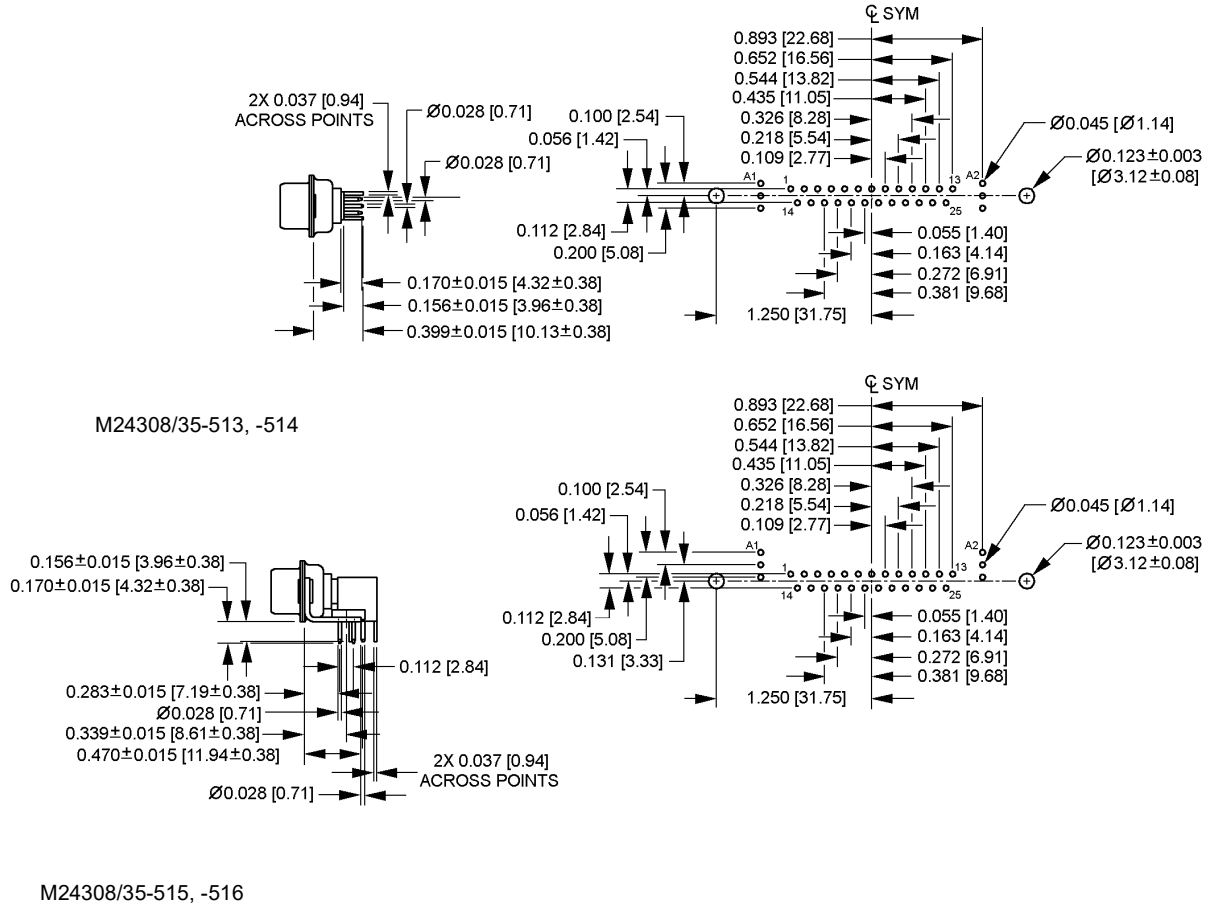
MIL-DTL-24308/35A



25W3

FIGURE 4. Terminations and layout arrangement for shielded connector, plug, printed wiring board type - Continued.

MIL-DTL-24308/35A



27W2

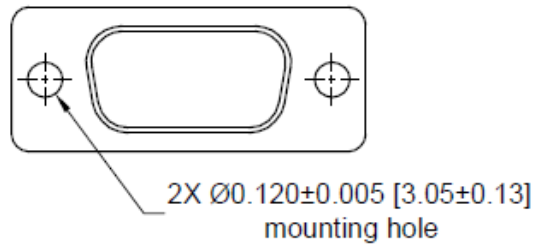
NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerance for three place decimals is ±.005 inch (0.13 mm).

FIGURE 4. Terminations and layout arrangement for shielded connector, plug, printed wiring board type - Continued.

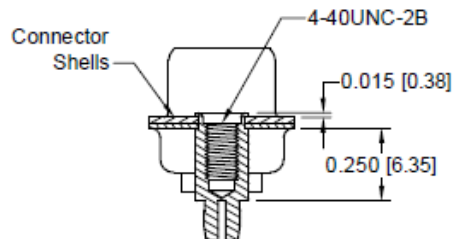
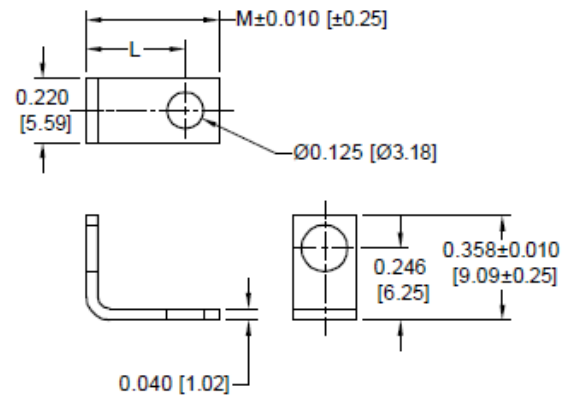
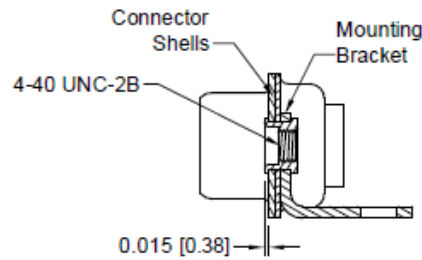
Configuration A:

Ø .120 (3.05 mm) mounting hole,
straight termination connectors



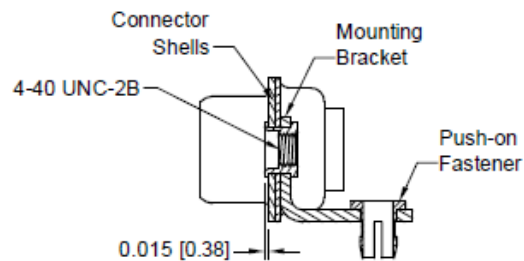
Configuration B and C:

Mounting bracket and threaded rivet,
right angle termination connectors



Configuration D:

Swaged spacer with push on
fastener, straight termination
connectors



Configuration E and F:

Mounting bracket and threaded rivet with
push on fastener, right angle termination connectors

FIGURE 5. Mounting configurations.

Mounting bracket configuration	L	M	Mounting type
B	0.339	0.456	0.125 hole
C	0.420	0.537	0.125 hole
E	0.339	0.456	Fastener
F	0.420	0.537	Fastener

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerance for three place decimals is ± 0.005 inch (0.13 mm).

FIGURE 5. Mounting configurations - Continued.

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REQUIREMENTS:

Dimensions and configurations:

Insert arrangements shall be in accordance with figure 1.

Shell configuration shall be in accordance with figure 2.

Termination and layout arrangement shall be in accordance with figures 3 and 4.

Mounting configurations shall be in accordance with figure 5.

Materials and finishes:

Mounting brackets half hard brass, UNS-C26000 in accordance with ASTM B36/B36M or corrosion-resistant steel shall be passivated in accordance with SAE AMS2700 or ASTM A580/A580M.

Finish in accordance with MIL-DTL-24308.

Spacer with push fastener, phosphor bronze, UNS-C54400 in accordance with ASTM B139/B139M.

Finish: Gold in accordance with MIL-DTL-45204, type II, grade C, class 1 or equivalent over copper in accordance with SAE AMS 2418.

Push fastener with mounting brackets, beryllium copper, UNS-C17300 in accordance with ASTM B196/B196M.

Finish: Gold in accordance with MIL-DTL-45204, type II, grade C, class 1 or equivalent over copper in accordance with SAE AMS 2418.

Electrical:

Size 20 signal contacts:

Current rating:	7.5 amps nominal
Initial contact resistance:	.008 ohms maximum
Proof voltage:	1000 V r.m.s.

Power contacts:

.078 dia:	10 amps
.125 dia:	40 amps
Initial contact resistance:	.0005 ohms maximum

Shielded contacts:

Nominal impedance:	50 ohms
Insertion loss:	-0.46 dB at 1 GHz -1.5 dB at 2 GHz
VSWR:	1.15 average at 1 GHz 1.56 average at 2 GHz

Proof voltage:	1000 V r.m.s
Initial contact resistance:	.008 ohms maximum

MIL-DTL-24308/35A

TABLE I. PIN and dash numbers. ^{1/}

PIN	Insert arrangement (see figure 1)	Size 8 contact	Termination type	Mounting configuration (see figure 5)
M24308/35-001	8W8	0.078	Straight	A
M24308/35-002		0.078	Straight	D
M24308/35-003		0.078	Right angle	B
M24308/35-004		0.078	Right angle	E
M24308/35-005		0.078	Right angle	C
M24308/35-006		0.078	Right angle	F
M24308/35-007		0.125	Straight	A
M24308/35-008		0.125	Straight	D
M24308/35-009		0.125	Right angle	B
M24308/35-010		0.125	Right angle	E
M24308/35-011		0.125	Right angle	C
M24308/35-012		0.125	Right angle	F
M24308/35-013		Shielded	Straight	A
M24308/35-014		Shielded	Straight	D
M24308/35-015		Shielded	Right angle	B
M24308/35-016		Shielded	Right angle	E

^{1/} The connector mates with MIL-DTL-24308/36.

MIL-DTL-24308/35A

TABLE I. PIN and dash numbers - Continued. 1/

PIN	Insert arrangement (see figure 1)	Size 8 contact	Termination type	Mounting configuration (see figure 5)
M24308/35-101	13W6	0.078	Straight	A
M24308/35-102		0.078	Straight	D
M24308/35-103		0.078	Right angle	B
M24308/35-104		0.078	Right angle	E
M24308/35-105		0.078	Right angle	C
M24308/35-106		0.078	Right angle	F
M24308/35-107		0.125	Straight	A
M24308/35-108		0.125	Straight	D
M24308/35-109		0.125	Right angle	B
M24308/35-110		0.125	Right angle	E
M24308/35-111		0.125	Right angle	C
M24308/35-112		0.125	Right angle	F
M24308/35-113		Shielded	Straight	A
M24308/35-114		Shielded	Straight	D
M24308/35-115		Shielded	Right angle	B
M24308/35-116		Shielded	Right angle	E

1/ The connector mates with MIL-DTL-24308/36.

MIL-DTL-24308/35A

TABLE I. PIN and dash numbers - Continued. 1/

PIN	Insert arrangement (see figure 1)	Size 8 contact	Termination type	Mounting configuration (see figure 5)
M24308/35-201	17W5	0.078	Straight	A
M24308/35-202		0.078	Straight	D
M24308/35-203		0.078	Right angle	B
M24308/35-204		0.078	Right angle	E
M24308/35-205		0.078	Right angle	C
M24308/35-206		0.078	Right angle	F
M24308/35-207		0.125	Straight	A
M24308/35-208		0.125	Straight	D
M24308/35-209		0.125	Right angle	B
M24308/35-210		0.125	Right angle	E
M24308/35-211		0.125	Right angle	C
M24308/35-212		0.125	Right angle	F
M24308/35-213		Shielded	Straight	A
M24308/35-214		Shielded	Straight	D
M24308/35-215		Shielded	Right angle	B
M24308/35-216		Shielded	Right angle	E

1/ The connector mates with MIL-DTL-24308/36.

MIL-DTL-24308/35A

TABLE I. PIN and dash numbers - Continued. 1/

PIN	Insert arrangement (see figure 1)	Size 8 contact	Termination type	Mounting configuration (see figure 5)
M24308/35-301	21W4	0.078	Straight	A
M24308/35-302		0.078	Straight	D
M24308/35-303		0.078	Right angle	B
M24308/35-304		0.078	Right angle	E
M24308/35-305		0.078	Right angle	C
M24308/35-306		0.078	Right angle	F
M24308/35-307		0.125	Straight	A
M24308/35-308		0.125	Straight	D
M24308/35-309		0.125	Right angle	B
M24308/35-310		0.125	Right angle	E
M24308/35-311		0.125	Right angle	C
M24308/35-312		0.125	Right angle	F
M24308/35-313		Shielded	Straight	A
M24308/35-314		Shielded	Straight	D
M24308/35-315		Shielded	Right angle	B
M24308/35-316		Shielded	Right angle	E

1/ The connector mates with MIL-DTL-24308/36.

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TABLE I. PIN and dash numbers - Continued. 1/

PIN	Insert arrangement (see figure 1)	Size 8 contact	Termination type	Mounting configuration (see figure 5)
M24308/35-401	25W3	0.078	Straight	A
M24308/35-402		0.078	Straight	D
M24308/35-403		0.078	Right angle	B
M24308/35-404		0.078	Right angle	E
M24308/35-405		0.078	Right angle	C
M24308/35-406		0.078	Right angle	F
M24308/35-407		0.125	Straight	A
M24308/35-408		0.125	Straight	D
M24308/35-409		0.125	Right angle	B
M24308/35-410		0.125	Right angle	E
M24308/35-411		0.125	Right angle	C
M24308/35-412		0.125	Right angle	F
M24308/35-413		Shielded	Straight	A
M24308/35-414		Shielded	Straight	D
M24308/35-415		Shielded	Right angle	B
M24308/35-416		Shielded	Right angle	E

1/ The connector mates with MIL-DTL-24308/36.

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TABLE I. PIN and dash numbers - Continued. 1/

PIN	Insert arrangement (see figure 1)	Size 8 contact	Termination type	Mounting configuration (see figure 5)
M24308/35-501	27W2	0.078	Straight	A
M24308/35-502		0.078	Straight	D
M24308/35-503		0.078	Right angle	B
M24308/35-504		0.078	Right angle	E
M24308/35-505		0.078	Right angle	C
M24308/35-506		0.078	Right angle	F
M24308/35-507		0.125	Straight	A
M24308/35-508		0.125	Straight	D
M24308/35-509		0.125	Right angle	B
M24308/35-510		0.125	Right angle	E
M24308/35-511		0.125	Right angle	C
M24308/35-512		0.125	Right angle	F
M24308/35-513		Shielded	Straight	A
M24308/35-514		Shielded	Straight	D
M24308/35-515		Shielded	Right angle	B
M24308/35-516		Shielded	Right angle	E

1/ The connector mates with MIL-DTL-24308/36.

MIL-DTL-24308/35A

PIN example: M24308/35 -501 F G

Specification sheet number: _____

Dash number from table I: _____

Finish: _____

A = Pure electrodeposited aluminum. 1/
 F = Cadmium. 1/, 5/
 K = Zinc nickel. 1/ 2/
 P = Passivated stainless steel. 1/
 T = Nickel Fluorocarbon Polymer. 1/ 2/
 Z = zinc. 1/
 - = nickel 3/ or gold 4/

Class: _____

G, N, D or M (See MIL-DTL-24308)

NOTES:

- 1/ Finish for class G or N.
- 2/ Not for use with class N or M
- 3/ Finish for class D.
- 4/ Finish for class M.
- 5/ Cadmium finish may have a chromate conversion coating or chromic acid rinse which includes hexavalent chromium and are not recommended for Army ground systems.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

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Referenced documents. In addition to MIL-DTL-24308, this document references the following:

MIL-DTL-24308/36
MIL-DTL-45204
ASTM B36/B36M
ASTM B139/B139M
ASTM B196/B196M
ASTM A580/A580M
SAE AMS2700
SAE AMS 2418

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force – 85
NASA - NA
DLA - CC

Preparing activity:

DLA - CC

(Project: 5935-2022-159)

Review activities:

Army - AT, CR4, MI
Navy - AS, CG, MC, SH
MISC - MDA

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil/>.