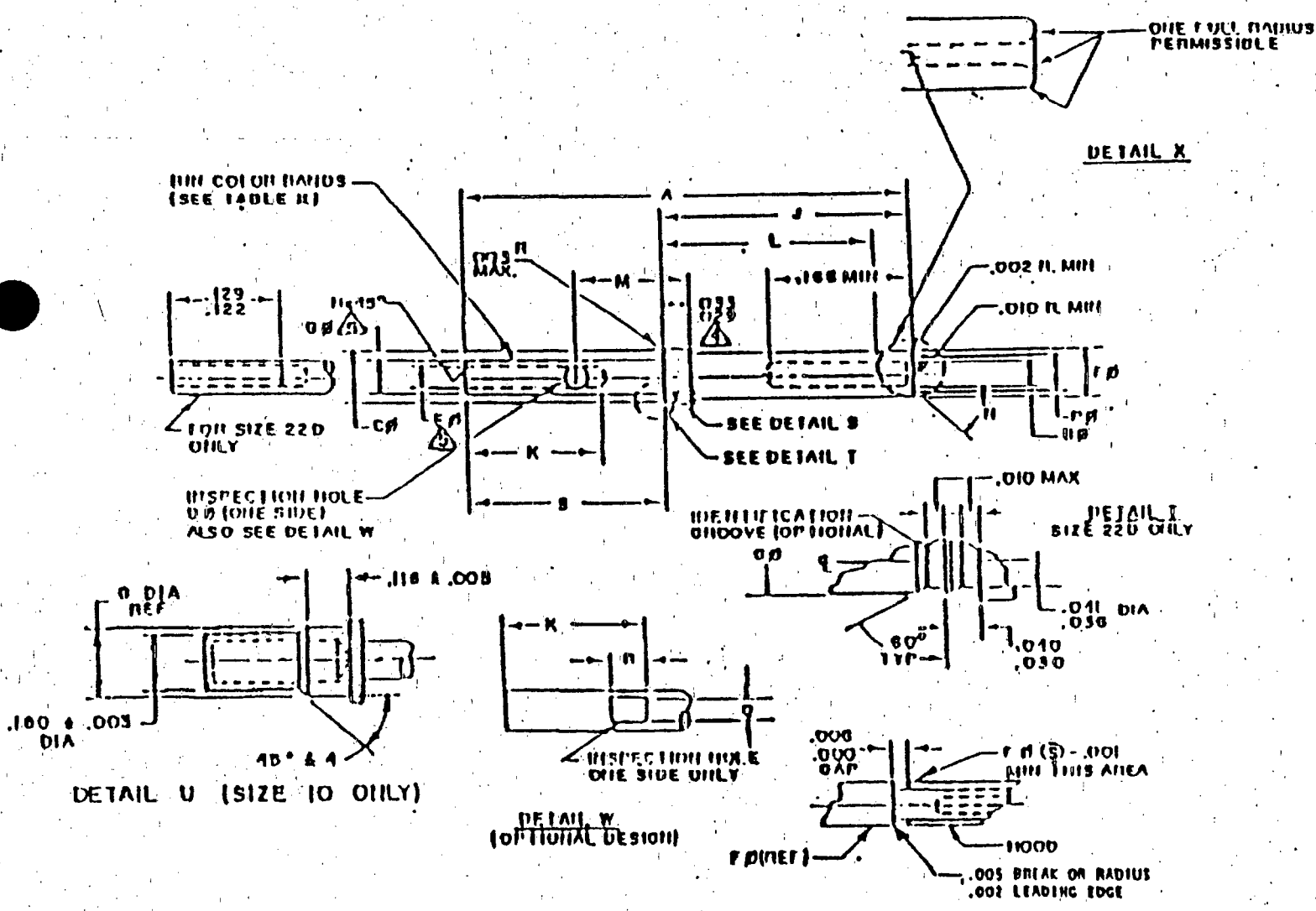
INCH-POUND
MIL-C-39029/106A
21 September 1990
SUPERSEDING
MIL-C-39029/106
22 February 1990

MILITARY SPECIFICATION SHEET

# CONTACTS, ELECTRICAL CONNECTOR, SOCKET, CRIMP REMOVABLE, (FOR MIL-C-38999 SERIES I, III AND IV AND MIL-C-29600 SERIES A CONNECTORS)

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

The complete requirements for acquiring the contacts described herein shall consist of this specification and the latest revision of MIL-C-39029.




AMSC N/A FSC 5935

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TABLE I. Dimensions.

| BIN Code | A REF | BØ Min | CØ | DØ | EØ | FØ MAX | GØ | H | J | K Min | L Min (6) | M | N° | PØ Min | Q | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 614 | | .031 | .062 | .022 | .0355 | .062 | .048 | .005 | | .141 | | — | 50° | .047 | .022 | .046 | |
| | | | .060 | .018 | .0355 | | .046 | .003 | | | | | 44° | | .018 | .018 | |
| 615 | | .0415 | .094 | .032 | .048 | .078 | .070 | .010 | | .209 | | .078 | 47° | .053 | .032 | .063 | .237 |
| | | | .091 | .026 | .046 | | .068 | .005 | | | | .072 | 40° | | .026 | .026 | .231 |
| 616 | .855 | .064 | .130 | .042 | .068 | .113 | .103 | .010 | .626 | .209 | .585 | .088 | 47° | .084 | .042 | .073 | |
| | | | .127 | .036 | .066 | | .101 | .005 | .616 | | | .082 | 40° | | .030 | .036 | |
| 617 | | .0955 | .182 | .042 | .102 | .161 | .151 | .016 | | .209 | | .088 | 47° | .118 | .042 | .073 | |
| | | | .179 | .036 | .098 | | .148 | .005 | | | | .082 | 40° | | .030 | .036 | |
| 618 | 1.021 | .1265 | .242 | .052 | .140 | .215 | .213 | .016 | | .385 | | .115 | N/A | .146 | N/A | N/A | .405 |
| | | | .238 | .046 | .134 | | .207 | .005 | | .355 | | .108 | 1/ | 1/ | | | .395 |

1/ Full radius permissible.





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NOTES:

1. Dimensions are in inches unless otherwise specified.
2. Metric equivalents are based upon 1 inch = 25.4 mm.
3. Dimensions apply after plating.
4. Indicated dimension does not apply for BIN-614.
5. For BIN-614 only, diameters E and G to be concentric with full indicator movement (FIM) regardless of feature size (S); for all other contact sizes, diameters E and G to be concentric within .001 FIM at maximum material condition (M).
6. Point at which a square ended pin of the same basic diameter as the mating contact first engages the socket contact spring.
7. Hoods shall not exceed contact body diameter (S) in attachment area.
8. Optional design may have a full length corrosion resistant steel hood.
9. Manufacturers trademark per AIR-1351.

| Inches | mm | Inches | mm | Inches | mm | Inches | mm |
|---|---|---|---|---|---|---|---|
| .003 | .0762 | .052 | 1.321 | .098 | 2.489 | .179 | 4.547 |
| .005 | .1270 | .053 | 1.346 | .101 | 2.565 | .182 | 4.623 |
| .010 | .2540 | .060 | 1.524 | .102 | 2.591 | .207 | 5.258 |
| .016 | .4064 | .062 | 1.575 | .103 | 2.616 | .209 | 5.309 |
| .018 | .4572 | .063 | 1.600 | .108 | 2.743 | .213 | 5.410 |
| .022 | .5588 | .064 | 1.626 | .113 | 2.870 | .215 | 5.461 |
| .026 | .6604 | .066 | 1.676 | .115 | 2.921 | .231 | 5.867 |
| .030 | .7620 | .068 | 1.727 | .118 | 2.997 | .237 | 6.020 |
| .031 | .7874 | .070 | 1.778 | .1265 | 3.213 | .238 | 6.045 |
| .032 | .8128 | .072 | 1.829 | .127 | 3.226 | .242 | 6.147 |
| .0335 | .8509 | .073 | 1.854 | .130 | 3.302 | .355 | 9.017 |
| .0355 | .9017 | .078 | 1.981 | .134 | 3.404 | .385 | 9.779 |
| .036 | .9144 | .082 | 2.083 | .140 | 3.556 | .395 | 10.03 |
| .0415 | 1.054 | .084 | 2.134 | .141 | 3.581 | .405 | 10.29 |
| .042 | 1.067 | .088 | 2.235 | .146 | 3.708 | .585 | 14.86 |
| .046 | 1.168 | .091 | 2.311 | .148 | 3.759 | .616 | 15.65 |
| .047 | 1.194 | .094 | 2.388 | .151 | 3.835 | .626 | 15.72 |
| .048 | 1.219 | .0955 | 2.426 | .161 | 4.089 | .855 | 21.72 |

TABLE II. Design characteristics.

| BIN code | Color bands | | | Mating end size | Wire barrel Size | Type | Class |
|---|---|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | | | | |
| 614 | Blue | Brown | Yellow | 22 | 22D | | |
| 615 | Blue | Brown | Green | 20 | 20 | | |
| 616 | Blue | Brown | Blue | 16 | 16 | A | B |
| 617 | Blue | Brown | Violet | 12 | 12 | | |
| 618 | Blue | Brown | Gray | 10 | 10 | | |



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TABLE III. Tools.

| Wire barrel size | Basic crimping tool | Positioner | Installing tool | Removal tool |
|---|---|---|---|---|
| 22D | M22520/2-01<br>M22520/7-01 | M22520/2-07<br>M22520/7-05 | M81969/14-01<br>M81969/8-01 | M81969/14-01<br>M81969/8-02 |
| 20 | M22420/7-01<br>M22520/2-01<br>M22520/1-01 | M22520/7-08<br>M22520/2-10<br>M22520/1-04<br>Red | M81969/8-05<br><br>M81969/14-10 | M81969/8-06<br><br>M81969/14-10 |
| 16 | M22520/1-01<br><br>M22520/7-01 | M22520/1-04<br>Blue<br>M22520/7-04 | M81969/8-07<br><br>M81969/14-03 | M81969/8-08<br><br>M81969/14-03 |
| 12 | M22520/1-01 | M22520/1-04<br>Yellow | M81969/8-09<br>M81969/14-04 | M81969/8-10<br>M81969/14-04 |
| 10 | M22520/XX 1/ | M22520/XX 1/ | M81969/8-XX 1/<br>M81969/14-05 | M81969/8-YY 1/<br>M81969/14-05 |

1/ To be determined

REQUIREMENTS:

Contacts shall comply with reliability assurance provisions of MIL-STD-790 as specified in MIL-C-38999.

Dimensions: See Figure 1 and Table I.

Design characteristics and configuration: See Figure 1 and Table II.

Tools: See Table III.

Mating contacts: MIL-C-39029/107.

Durability: 1500 cycles.

Vibration: The vibration requirements shall consist of those tests specified in MIL-C-38999. The contact sample group shall be 12 contacts, divided equally between the three separate vibration tests of MIL-C-38999 for Series III connectors.

Shock: The shock requirements shall consist of those tests specified in MIL-C-38999. The contact sample group shall be divided in half and each group subjected to the separate shock tests of MIL-C-38999 for Series III connectors.



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REQUIREMENTS: (continued)

Qualification: The qualification requirements shall consist of the sample numbers and tests specified in MIL-C-39029 for type A contacts with localized finish. For those tests which require the use of a connector pair, either a composite or metal shell connector pair may be utilized. Caution should be used if exceeding the rated durability cycles of a metal shell connector. For vibration and shock testing, accessories shall be as specified in MIL-C-39029.

Periodic qualification: The manufacturer shall forward a report every 24 months to the qualifying activity. The periodic qualification requirements shall consist of those tests specified for qualification except for vibration and shock.

QPL evaluating activity: Naval Avionics Center, B/444, 6000 East 21st Street, Indianapolis, Indiana 46219-2189.

Material: Base: Conductive copper alloy.
Plating: Contacts shall be plated to meet or exceed the performance requirements of MIL-C-39029 and withstand 1500 cycles of durability, (see 4.6.5). Contact finish shall be 5 millionths minimum gold alloy over 45 millionths palladium alloy, over a suitable underplate, and compatible with gold finish as defined in of MIL-C-39029.

Example of part number: M39029/106-614

- M39029/106 — Specification sheet number
- 614 — BIN code

Custodians:
Army - CR
Navy - AS
Air Force - 85

Review activities:
Army -AV
Navy -EC
Air Force -15
DLA -ES
NASA - NA

User activities:
Army -MI
Navy -SH, MC
Air Force -15

Preparing activity:
Navy - AS
(Project No. 5935-3812-01)



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