FEDERAL SUPPLY CLASS
5935

RATIONALE

REVISE TO INCLUDE COMMENTS RECEIVED BY THE GOVERNMENT AND INDUSTRY, REMOVE GOVERNMENT JARGON, ADD QUALIFICATION REQUIREMENTS, UPDATE REFERENCES, ALIGN SPECIFICATION WITH SAE GUIDELINES, AND REVIEW SPECIFICATION FOR KNOWN TECHNICAL PROBLEMS.

NOTICE

THE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF SAE AS39029.

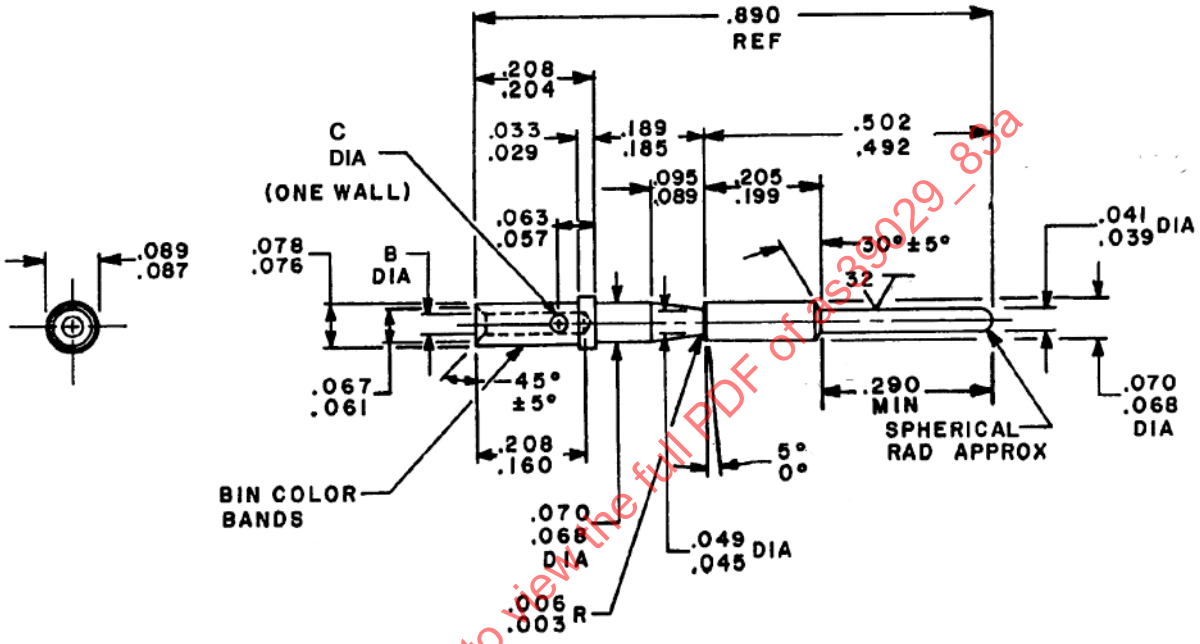
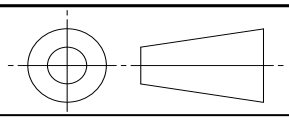



FIGURE 1 – DIMENSIONS AND CONFIGURATION





THIRD ANGLE PROJECTION



ISSUED 2000-07 REVISED 2011-02

CUSTODIAN: AE-8/AE-8C1

PROCUREMENT SPECIFICATION: AS39029

SAE Aerospace
An SAE International Group

# AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTOR,
PIN, CRIMP REMOVABLE
(FOR MIL-DTL-28840 CONNECTORS)

TABLE 1 - DESIGN CHARACTERISTICS

| BIN CODE | B DIA. | COLOR BANDS | | | MATING END SIZE | WIRE BARREL SIZE | TYPE | CLASS | C DIA. 1/ |
|---|---|---|---|---|---|---|---|---|---|
| | | 1ST | 2ND | 3RD | | | | | |
| 508 | .050 (1.27) .048 (1.22) | GREEN | BLACK | GRAY | 20 | 20 | A | B | .032 (.813) .026 (.660) |
| 450 | .0355 (.902) .0335 (.851) | YELLOW | GREEN | BLACK | 20 | 22 | A | B | .032 (.813) .026 (.660) |
| 451 | .0200 (.508) .0180 (.457) | YELLOW | GREEN | BROWN | 20 | 28 | A | B | .022 (.559) .018 (.457) |

1/ HOLE – ONE WALL.

TABLE 2 – TOOLS

| BIN CODE | BASIC CRIMPING TOOL | POSITIONER | INSTALLING TOOL | REMOVAL TOOL |
|---|---|---|---|---|
| 508 | M22520/34-01 | M22520/34-02 | M81969/33-01 | M81969/34-01 |
| 450 | M22520/34-01 | M22520/34-02 | M81969/33-01 | M81969/34-01 |
| 451 | M22520/34-01 | M22520/34-02 | M81969/33-01 | M81969/34-01 |

TABLE 3 – PART NUMBER AND BIN CODE

| PART NUMBER | BIN CODE | SUPERSEDED PART NUMBER |
|---|---|---|
| M39029/83-508 | 508 | -------- |
| M39029/83-450 | 450 | M39029/83-20-22 |
| M39029/83-451 | 451 | M39029/83-20-28 |

TABLE 4 – LOW SIGNAL LEVEL CONTACT RESISTANCE (TYPE A)

| MATING END SIZE | WIRE BARREL SIZE | WIRE SIZE | MAXIMUM CONTACT RESISTANCE (MILLIOHMS) | |
|---|---|---|---|---|
| | | | INITIAL | AFTER CONDITIONING |
| 20 | 20 | 20<br>24 | 9<br>20 | 11<br>23 |
| 20 | 22 | 22<br>26 | 15<br>31 | 17<br>38 |
| 20 | 28 | 28<br>30 | 50<br>75 | 60<br>88 |

TABLE 5 – CONTACT RESISTANCE (TYPE A) WITH SILVER PLATED WIRE

| MATING END SIZE | WIRE BARREL SIZE | WIRE SIZE RANGE | TEST CURRENT (AMPERES) | MAXIMUM VOLTAGE DROP (MILIVOLTS) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 25 °C ±3 °C | | 25 °C ±3 °C AFTER CONDITIONING | | 200 °C +3 °C -0 °C | |
| | | | | MAX | MAX AVG | MAX | MAX AVG. | MAX | MAX AVG. |
| 20 | 20 | 20<br>24 | 7.5<br>3 | 55<br>45 | 50<br>41 | 66<br>54 | 56<br>46 | 94<br>77 | 71<br>63 |
| 20 | 22 | 22<br>26 | 5.0<br>2.0 | 73<br>53 | 66<br>48 | 88<br>64 | 75<br>55 | 125<br>91 | 94<br>69 |
| 20 | 28 | 28<br>30 | 1.5<br>1.0 | 54<br>60 | 49<br>55 | 65<br>73 | 56<br>62 | 92<br>103 | 69<br>78 |

TABLE 6 – TENSILE STRENGTH (TYPE A)

| MATING END SIZE | WIRE BARREL SIZE | WIRE SIZE | AXIAL LOAD (POUNDS) | | | | |
|---|---|---|---|---|---|---|---|
| | | | SILVER TIN-PLATED COPPER WIRES | | NICKEL-PLATED COPPER WIRE | | HIGH STRENGTH COPPER ALLOY WIRE |
| | | | INITIAL CONDITION VALUES | THERMAL CONDITION VALUES | INITIAL CONDITION VALUES | THERMAL CONDITION VALUES | INITIAL CONDITION VALUES |
| 20 | 20 | 20<br>24 | 20<br>8 | 14<br>6 | 19<br>6 | 14.3<br>4.5 | --------- |
| 20 | 22 | 22<br>26 | 12<br>5 | 7.5<br>4.0 | 8<br>3 | 6.0<br>2.5 | 22<br>10 |
| 20 | 28 | 28<br>30 | 3<br>1.5 | 2.25<br>1.13 | 2<br>1.5 | 1.50<br>1.13 | 5.5<br>3.4 |

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF AS39029.

1. DESIGN:

   CONTACTS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1 AND TABLE 1. DIMENSIONS ARE IN INCHES. METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY. DIMENSIONS SHOWN APPLY AFTER PLATING. SPHERICAL END DIMENSIONS TO COMPLY WITH AS39029. SURFACE FINISH (ELECTRICAL ENGAGEMENT AREA) 32 MICROINCH FINISH. PIN TIP FLAT AS DEFINED IN AS39029 DOES NOT REQUIRE 32 MICROINCH FINISH. THE .290 MIN DIMENSION IS THE CONTACT ENGAGEMENT AREA FOR THE LOCALIZED FINISH OPTION (SEE REQUIREMENTS).

2. TOOLS:

   TOOLS REQUIRED FOR CRIMPING CONTACTS TO WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 2.

3. PART NUMBERS:

   CONTACT PART NUMBERS SHALL BE IN ACCORDANCE WITH TABLE 3. SUPERSEDED PART NUMBERS ARE AS SPECIFIED.