FEDERAL SUPPLY CLASS
5999

RATIONALE

AS39029/80A HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

NOTICE

THE REQUIREMENTS FOR PROCURING THE CONTACTS DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF: SAE AS39029

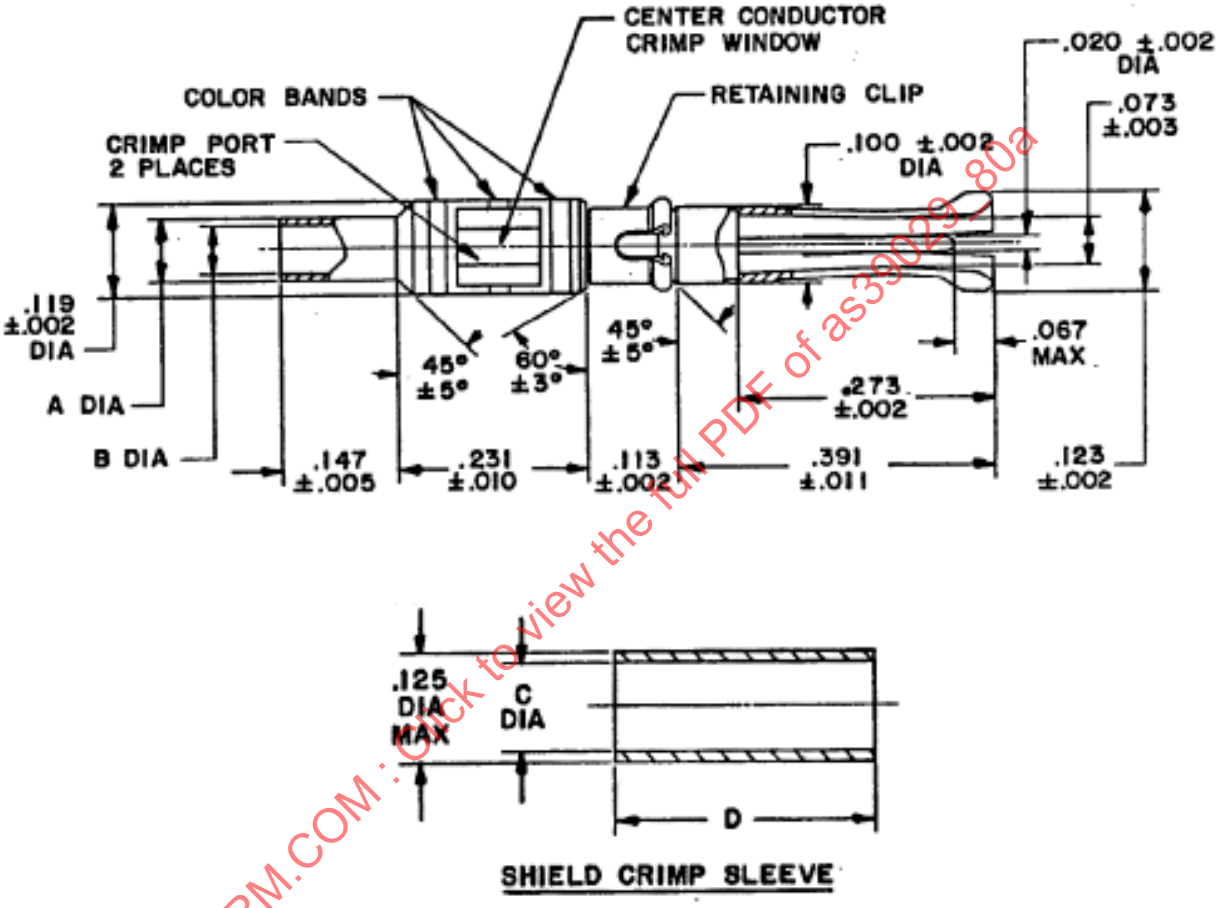
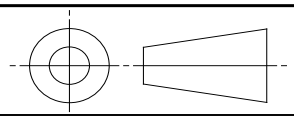


FIGURE 1 - AS39029/80 SHIELDED SOCKET CONTACT

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS39029/80A

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8C1

PROCUREMENT SPECIFICATION: AS39029

AEROSPACE STANDARD

(R) CONTACTS, ELECTRICAL CONNECTOR, SOCKET, CRIMP REMOVABLE, SHIELDED (FOR MIL-DTL-28748/10 CONNECTORS)

AS39029/80
SHEET 1 OF 4

REV. A

ISSUED 2000-07 REVISED 2009-09 REAFFIRMED 2014-11

TABLE 1 - CONTACT DIMENSIONS

BIN CODE	A ± .002 (.05)	B ± .002 (.05)	C ± .0010 (.025)	D ± .005 (.13)
438	.087 (2.21)	.070 (1.78)	.1065 (2.705)	.305 (7.75)
439	.087 (2.21)	.045 (1.14)	.1035 (2.629)	.250 (6.35)

TABLE 2 - MARKING AND DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			CABLE ACCOMMODATED	CONTACT CAVITY SIZE	TYPE	CLASS
	1 ST	2 ND	3 RD				
438	YELLOW	ORANGE	GRAY	M17/094-RG179 M17/113-RG316	16	D	A
439	YELLOW	ORANGE	WHITE	M17/093-RG178	16	D	A

TABLE 3 - TOOL REQUIREMENTS

BIN CODE	CONTACT CRIMPING TOOL	CABLE ACCOMMODATION	INSTALLING TOOL	REMOVAL TOOL
438	1/	M17/094-RG179 M17/113-RG316	M81969/17-04	2/
439	1/	M17/093-RG178	M81969/17-04	2/

1/ USE DANIELS MANUFACTURING COMPANY TOOL HX3-530, ASTRO TOOL COMPANY TOOL AL115 OR EQUIVALENT. TOOL CRIMPS BOTH INNER AND OUTER CONTACTS SIMULTANEOUSLY.
2/ DANIELS MANUFACTURING COMPANY TOOL DRK597, ASTRO TOOL COMPANY TOOL ATH 2101 OR EQUIVALENT

TABLE 4 - PART NUMBERS

AS39029 PART NUMBER	BIN CODE	SUPERSEDES PART NUMBER(S)
M39029/80-438	438	M39029/80-16A
M39029/80-439	439	M39029/80-16B

TABLE 5 - PERFORMANCE REQUIREMENTS

TENSILE STRENGTH (POUNDS)		CONTACT ENGAGING AND SEPARATION FORCES (oz)				CONTACT RESISTANCE (MILLIVOLTS)				
						25 °C + 3 °C		85 °C +3 °C – 0 °C		
INNER CONTACT	OUTER CONTACT	INNER CONTACT		CONTACT ASSEMBLY 1/		INNER CONTACT	OUTER CONTACT	INNER CONTACT	OUTER CONTACT	CABLE USED
4.0 MIN	10 MIN	.4 MIN	7.0 MAX	1.5 MIN	20.0 MAX	8.0 MAX	4.0 MAX	12.0 MAX	4.0 MAX	RG316
						12.0 MAX		24.0 MAX		RG179

1/ WHEN MATED WITH AS39029/79 CONTACT

DETAIL SPECIFICATION REQUIREMENTS:

1. DESIGN:
   CONTACT SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1, TABLE 1 AND 2. DIMENSIONS ARE IN INCHES AND SHOWN AFTER PLATING. ALL DIMENSIONS IN PARENTHESES ARE METRIC EQUIVALENTS AND PROVIDED FOR GENERAL INFORMATION ONLY (SEE AS39029 SECTION 6.0).

2. TOOLS:
   TOOLS REQUIRED FOR CRIMPING CONTACTS TO WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 3.

3. PART NUMBERS:
   CONTACT PART NUMBERS SHALL BE IN ACCORDANCE WITH TABLE 4. SUPERSEDING PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS:
   MATERIALS SHALL BE IN ACCORDANCE WITH AS39029.

5. MECHANICAL:
   MECHANICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

   THE CONTACT SEPARATION AND ENGAGEMENT FORCES SHALL MEET THE REQUIREMENTS OF TABLE 5.

   THE TENSILE STRENGTH SHALL MEET THE REQUIREMENTS OF TABLE 5.

   AXIAL CONCENTRICITY OF ALL DIAMETERS, PRIOR TO CRIMPING, SHALL BE CONCENTRIC WITHIN 0.004 INCHES (0.10 mm) TIR. AXIAL CONCENTRICITY OF ALL DIAMETERS, AFTER CRIMPING, SHALL BE CONCENTRIC WITHIN 0.009 (0.23 mm) TIR

6. ELECTRICAL:
   ELECTRICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

   CONTACT RESISTANCE AT A LOAD CURRENT OF 1.0 AMPERE SHALL MEET THE REQUIREMENTS OF TABLE 5.

   DIELECTRIC WITHSTANDING VOLTAGE SHALL BE 750 VOLTS, AC, RMS AT SEA LEVEL.

   INSULATION RESISTANCE SHALL BE TESTED AT 25 +3, -0 °C AND 85 +3, -0 °C.

   LOW SIGNAL CONTACT RESISTANCE IS ON THE INNER CONTACT ONLY. THE INITIAL RESISTANCE SHALL BE 100 MILLIOHMS. THE AFTER CONDITIONED RESISTANCE SHALL 125 MILLIOHMS.

7. ENVIRONMENTAL:
   ENVIRONMENTAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

   VIBRATION TEST SHALL BE TEST CONDITION II

   SHOCK TEST SHALL BE TEST CONDITION I

8. ASSEMBLY INSTRUCTIONS:
   MANUFACTURER'S RECOMMENDED ASSEMBLY INSTRUCTIONS SHALL BE SHIPPED WITH EACH UNIT PACKAGE.

9. QUALIFICATION REQUIREMENTS:
   CONNECTOR FIXTURES SHALL BE MIL-DTL-28748.

   TEN ADDITIONAL CONTACT SAMPLES, OF EACH SIZE, SHALL BE SUBJECTED TO THE CONTACT RETENTION TEST AS SPECIFIED IN MIL-DTL-28748 FOR QUALIFICATION AND GROUP B INSPECTION.

   QUALIFICATION OF ONE DASH NUMBER (i.e. -438) QUALIFIES ALL DASH NUMBERS PROVIDED DIMENSIONS FROM MANUFACTURER'S CONTROL DRAWINGS ARE SUPPLIED ON ALL CONTACTS BEING QUALIFIED BY SIMILARITY.