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AS39029™/10

FEDERAL SUPPLY CLASS
5999

RATIONALE

LIMITED SCOPE REVISION REQUIRED TO REMOVE DIMENSION "Q" AND "R" FROM TABLE 2 WHICH IS NO LONGER LISTED IN FIGURE 1 AND DEFINE WHAT WIRE SHOULD BE USED FOR QUALIFICATION.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS39029.

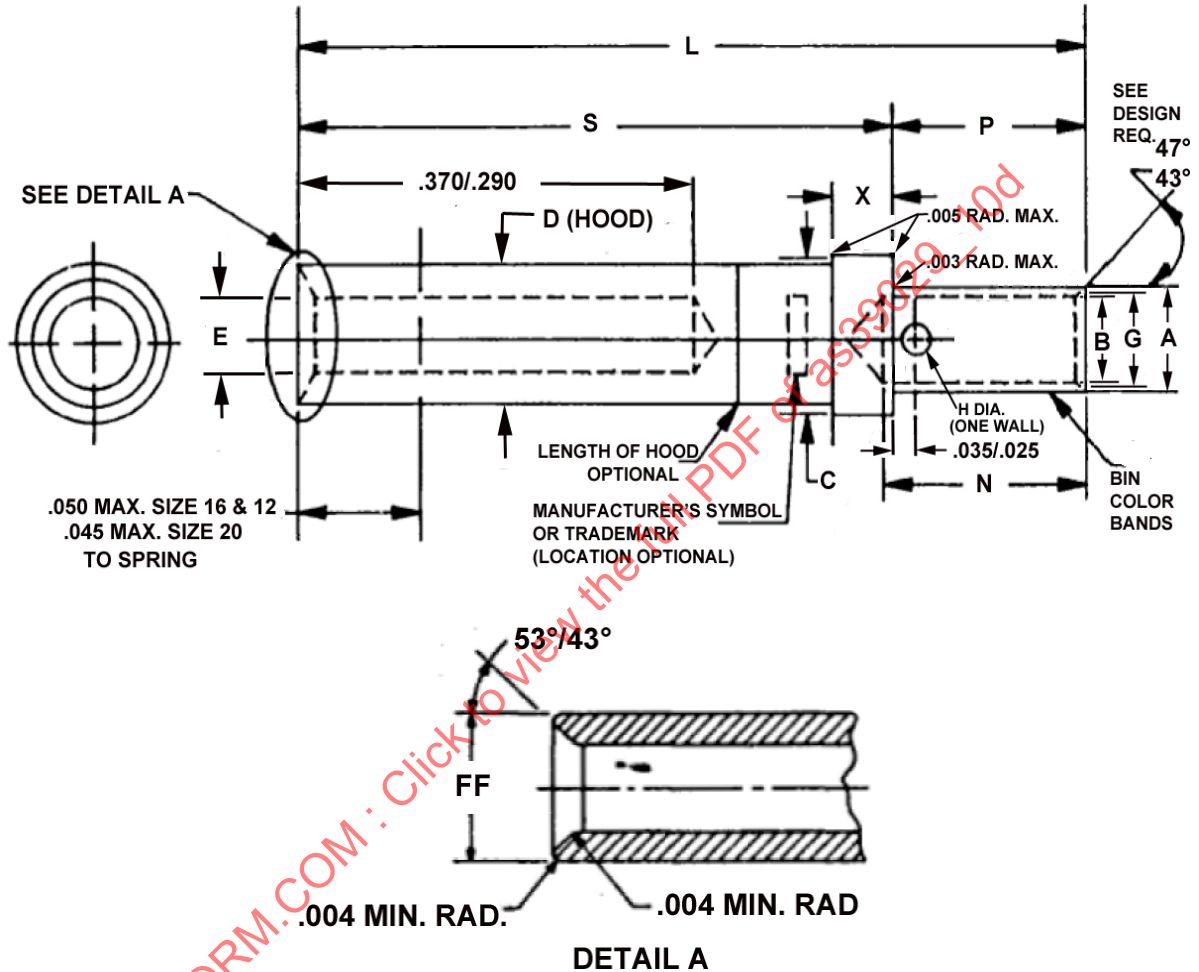
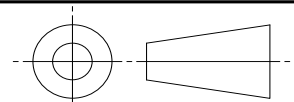


FIGURE 1 - AS39029/10 SOCKET CONTACT CONFIGURATION

For more information on this standard, visit

<https://www.sae.org/standards/content/AS39029/10D>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTOR, SOCKET, CRIMP
REMOVABLE, THERMOCOUPLE (FOR MIL-DTL-26482
SERIES 2, AS81703 SERIES 3, MIL-DTL-83723 SERIES I AND III,
AND MIL-DTL-83733 CONNECTORS)

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ISSUED 2001-03 REAFFIRMED 2020-12 REVISED 2024-01

TABLE 1 - FIGURE 1 METRIC EQUIVALENTS

INCHES	MILLIMETERS	INCHES	MILLIMETERS	INCHES	MILLIMETERS
.003	0.08	.025	0.64	.050	1.27
.004	0.10	.035	0.89	.290	7.37
.005	0.13	.045	1.14	.370	9.40

TABLE 2 - CONTACT DIMENSIONS

BIN CODE	A DIA	B DIA	C DIA	D DIA	E DIA	G DIA	H DIA
138-142	.078 (1.98)	.050 (1.27)	.103 (2.62)	.078 (1.98)	.044 (1.12)	.066 (1.68)	.032 (0.81)
	.076 (1.93)	.048 (1.22)	.100 (2.54)	.076 (1.93)	.042 (1.07)	.062 (1.57)	.026 (0.66)
519-523	.103 (2.62)	.068 (1.73)	.133 (3.38)	.113 (2.87)	.068 (1.73)	.089 (2.26)	.042 (1.07)
	.101 (2.57)	.066 (1.68)	.130 (3.30)	.110 (2.79)	.065 (1.65)	.083 (2.11)	.036 (0.91)

TABLE 2 - CONTACT DIMENSIONS (CONTINUED)

L MAX (REF)	N	P	S	X	FF DIA MIN REF ONLY
.656 (16.66)	.186 (4.72)	.171 (4.34)	.485 (12.32)	.033 (0.84)	.060 (1.52)
.759 (19.28)	.157 (3.99)	.160 (4.06)	.479 (12.17)	.029 (0.74)	.087 (2.21)
	.284 (7.21)	.257 (6.53)	.500 (12.70)	.048 (1.22)	
	.250 (6.35)	.246 (6.25)	.494 (12.55)	.044 (1.12)	

TABLE 3 - MARKING AND DESIGN CHARACTERISTICS

BIN CODES	COLOR BANDS			MATING END SIZE	WIRE BARREL SIZE	TYPE	CLASS
	1ST	2ND	3RD				
138	BROWN	ORANGE	GRAY	20	20	C-COPPER WITH GOLD FLASH	B
139	BROWN	ORANGE	WHITE	20	20	C-JN 1/	B
140	BROWN	YELLOW	BLACK	20	20	C-KN 1/	B
141	BROWN	YELLOW	BROWN	20	20	C-KP 1/	B
142	BROWN	YELLOW	RED	20	20	C-JP (WITH CADMIUM PLATE) 1/	B
519	GREEN	BROWN	WHITE	16	16	C-COPPER WITH GOLD FLASH	B
520	GREEN	RED	BLACK	16	16	C-JN 1/	B
521	GREEN	RED	BROWN	16	16	C-KN 1/	B
522	GREEN	RED	RED	16	16	C-KP 1/	B
523	GREEN	RED	ORANGE	16	16	C-JP (WITH CADMIUM PLATE) 1/	B

1/ JN = TYPE J NEGATIVE (FORMERLY KONSTANTAN/COPPER-NICKEL-ALLOY), KN = TYPE K NEGATIVE (FORMERLY ALUMEL/NICKEL-ALUMINUM/SILICONE), KP = TYPE K POSITIVE (FORMERLY CHROMEL/NICKEL CHROMIUM), JP = TYPE J POSITIVE (FORMERLY IRON).

TABLE 4 - TOOL REQUIREMENTS

BIN CODE	BASIC CRIMPING TOOL	POSITIONER	INSTALLING TOOL	REMOVAL TOOL	
				WIRED CONTACT	UNWIRED CONTACT
138 139 140 141 142	M22520/1-01 OR M22520/2-01	M22520/1-02 (RED) OR M22520/2-02	M81969/8-205 (METAL) OR M81969/14-11 (PLASTIC)	M81969/8-206 (METAL) OR M81969/14-11 (PLASTIC)	M81969/30-05 (RED PROBE -25)
519 520 521 522 523	M22520/1-01 OR M22520/7-01	M22520/1-02 (BLUE) OR M22520/7-03	M81969/8-207 (METAL) OR M81969/14-03 (PLASTIC)	M81969/8-208 (METAL) OR M81969/14-11 (PLASTIC)	M81969/30-06 (BLUE PROBE -26)



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TABLE 5 - PART NUMBERS

AS39029 PART NUMBER	BIN CODE	SUPERSEDED PART NUMBER(S)
M39029/10-138	138	M39029/10-20-20 C1
M39029/10-139	139	M39029/10-20-20 C2
M39029/10-140	140	M39029/10-20-20 C3
M39029/10-141	141	M39029/10-20-20 C4
M39029/10-142	142	M39029/10-20-20 C5
M39029/10-519	519	5000-108-516 <u>1/</u>
M39029/10-520	520	5000-108-416 <u>1/</u>
M39029/10-521	521	5000-108-116 <u>1/</u>
M39029/10-522	522	5500-108-216 <u>1/</u>
M39029/10-523	523	5000-108-316 <u>1/</u>

1/ MANUFACTURER'S CAGE CODE 14283.

TABLE 6 - CONTACT TENSILE STRENGTH

BIN CODE	TENSILE STRENGTH (LB)	
	WIRE SIZE	AXIAL LOAD
138, 139, 140, 141, & 142	24	6
	20	12
519, 520, 521, 522, & 523	20	14
	16	45

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

1. DESIGN:

CONTACT SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1 AND TABLES 2 AND 3. DIMENSIONS ARE IN INCHES AND SHOWN AFTER PLATING. ALL DIMENSIONS PROVIDED IN PARENTHESES ARE METRIC EQUIVALENTS AND ARE GIVEN FOR GENERAL INFORMATION ONLY (REFER TO AS39029, SECTION 6). THE MAXIMUM GAP BETWEEN HOOD AND BODY OF CONTACT IS .010 INCHES. AN ALTERNATE DESIGN OF THE WIRE BARREL LEAD-IN ANGLE SHALL BE AS FOLLOWS:

SIZE 20: BLEND RADIUS .015 INCH ± .005 INCH.

SIZE 16: BLEND RADIUS .020 INCH ± .005 INCH.

2. TOOLS:

TOOLS REQUIRED FOR CRIMPING CONTACTS TO WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 4.

3. PART NUMBERS:

CONTACT PART NUMBERS SHALL BE IN ACCORDANCE WITH TABLE 5. SUPERSEDED PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS:

MATERIALS SHALL BE IN ACCORDANCE WITH AS39029.

5. MECHANICAL:

MECHANICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

TENSILE STRENGTH SHALL BE AS SHOWN IN TABLE 6.

6. ELECTRICAL:

NOT REQUIRED.

7. ENVIRONMENTAL:

ENVIRONMENTAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.



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