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REV.
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AS39029™/87

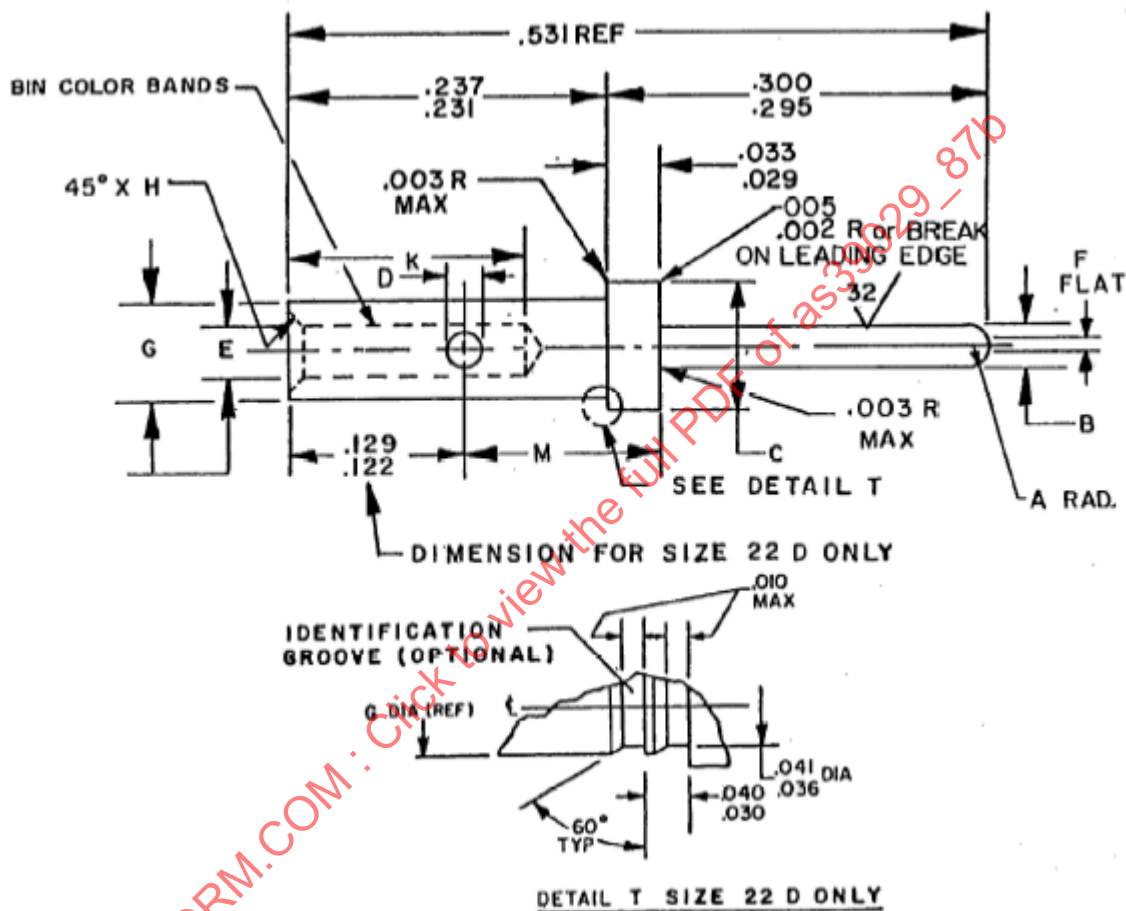
FEDERAL SUPPLY CLASS
5999

RATIONALE

LIMITED SCOPE REVISION REQUIRED TO DEFINE WHAT CONDUCTOR TO USE FOR QUALIFICATION, UPDATE TOOL TABLE, AND PERFORM MINOR EDITING AS NEEDED.

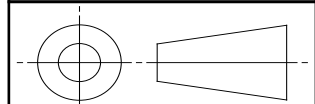
NOTICE

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



For more information on this standard, visit
<https://www.sae.org/standards/content/AS39029/87B/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP
REMOVABLE, THERMOCOUPLE (FOR MIL-DTL-38999 SERIES
I, II, III, AND IV, MIL-DTL-24308, AND MIL-DTL-83733)

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ISSUED 2000-07 REAFFIRMED 2020-01 REVISED 2024-01

TABLE 1 - CONTACT DIMENSIONS

BIN CODE	A RADIUS	B DIA	C DIA	D DIA	E DIA	F DIA	G DIA	H	K	M
470 THRU 473	.020 (0.51) .010 (0.25)	.0305 (0.77) .0295 (0.75)	.062 (1.57) .060 (1.52)	.022 (0.56) .018 (0.46)	.0355 (0.90) .0335 (0.85)	.011 (0.28) MAX	.048 (1.22) .046 (1.17)	.005 (0.13) .003 (0.08)	.157 (3.99) .141 (3.58)	N/A
474 THRU 477	.020 (0.51) .015 (0.38)	.041 (1.04) .039 (0.99)	.094 (2.39) .091 (2.31)	.032 (0.81) .026 (0.66)	.048 (1.22) .046 (1.17)	.015 (0.38) MAX	.070 (1.78) .068 (1.73)	.010 (0.25) .005 (0.13)	.229 (5.82) .209 (5.31)	.078 (1.98) .072 (1.83)
478 THRU 481	.025 (0.64) .020 (0.51)	.0635 (1.61) .0615 (1.56)	.130 (3.30) .127 (3.23)	.042 (1.07) .036 (0.91)	.068 (1.73) .066 (1.68)	.030 (0.76) .011 (0.28)	.103 (2.62) .101 (2.57)			.088 (2.24) .082 (2.08)

TABLE 2 - MARKING AND DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			MATING END SIZE	WIRE BARRELL SIZE	TYPE	CLASS
	1 ST	2 ND	3 RD				
470	YELLOW	VIOLET	BLACK	22	22D	C	B
471	YELLOW	VIOLET	BROWN	22	22D		
472	YELLOW	VIOLET	RED	22	22D		
473	YELLOW	VIOLET	ORANGE	22	22D		
474	YELLOW	VOILET	YELLOW	20	20		
475	YELLOW	VIOLET	GREEN	20	20		
476	YELLOW	VIOLET	BLUE	20	20		
477	YELLOW	VIOLET	VIOLET	20	20		
478	YELLOW	VIOLET	GRAY	16	16		
479	YELLOW	VIOLET	WHITE	16	16		
480	YELLOW	GRAY	BLACK	16	16		
481	YELLOW	GRAY	BROWN	16	16		



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TABLE 3 - TOOLS

BIN CODE	BASIC CRIMPING TOOL	POSITIONER	INSTALLING TOOL	REMOVAL TOOL	UNWIRED CONTACT TOOL
470, 471, 472, 473	M22520/2-01 OR M22520/7-01	M22520/2-09 OR M22520/7-07	M81969/8-01 OR M81969/8-301 OR M81969/14-01	M81969/8-02 OR M81969/14-01	M81969/30-08 (BROWN PROBE -28)
474, 475, 476, 477	M22520/1-01 OR M22520/2-01 OR M22520/7-01	M22520/1-04 OR M22520/2-10 OR M22520/7-08	M81969/8-05 OR M81969/8-305 OR M81969/14-02	M81969/8-06 OR M81969/14-02	M81969/30-11 (RED PROBE -31)
478, 479, 480, 481	M22520/1-01 OR M22520/7-01	M22520/1-04 OR M22520/7-04	M81969/8-07 OR M81969/8-307 OR M81969/14-03	M81969/8-08 OR M81969/14-03	M81969/30-12 (BLUE PROBE -32)

TABLE 4 - MATERIALS, PLATING, AND TENSILE STRENGTH

BIN CODE	MATERIALS	PLATING	TENSILE STRENGTH 1/			
			WIRE SIZE	AXIAL LOAD (LBF)	WIRE SIZE	AXIAL LOAD (LBF)
470	JN	NONE	28 MIN	1.5	22 MAX	6
471	KN	NONE				
472	KP	NONE				
473	JP	CADMIUM PLATE 2/				
474	JN	NONE	24 MIN	4.5	20 MAX	14
475	KN	NONE				
476	KP	NONE				
477	JP	CADMIUM PLATE 2/				
478	JN	NONE	20 MIN	14	16 MAX	33
479	KN	NONE				
480	KP	NONE				
481	JP	CADMIUM PLATE 2/				

1/ APPLIES TO TYPE 1 WIRE PER MIL-W-5846.

2/ CHROMATE CLEAR COAT.



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TABLE 5 - PART NUMBER AND BIN CODE

PART NUMBER	BIN CODE	SUPERSEDED
M39029/87-470	470	M39029/872222C1
M39029/87-471	471	M39029/872222C2
M39029/87-472	472	M39029/872222C3
M39029/87-473	473	M39029/872222C4
M39029/87-474	474 <u>1/</u>	M39029/872020C1
M39029/87-475	475 <u>1/</u>	M39029/872020C2
M39029/87-476	476 <u>1/</u>	M39029/872020C3
M39029/87-477	477 <u>1/</u>	M39029/872020C4
M39029/87-478	478 <u>1/</u>	M39029/871616C1
M39029/87-479	479 <u>1/</u>	M39029/871616C2
M39029/87-480	480 <u>1/</u>	M39029/871616C3
M39029/87-481	481 <u>1/</u>	M39029/871616C4

1/ NOT FOR USE WITH MIL-DTL-83733 OR MIL-DTL-24308 CONNECTORS (FOR MIL-DTL-83733 CONTACT SIZES 20 AND 16, REFER TO AS39029/9 AND AS39029/10).

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

1. DESIGN:

- CONTACTS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1 AND TABLES 1 AND 2.
- DIMENSIONS ARE IN INCHES. METRIC EQUIVALENTS IN PARENTHESES ARE FOR GENERAL INFORMATION ONLY. DIMENSIONS APPLY AFTER PLATING.
- FOR SIZE 22D ONLY, DIAMETERS E AND G ARE TO BE CONCENTRIC WITHIN .003 (TIR) REGARDLESS OF FEATURE SIZE (RFS). FOR ALL OTHER CONTACT SIZES, DIAMETERS E AND G ARE TO BE CONCENTRIC WITHIN .001 (TIR) AT MAXIMUM MATERIAL CONDITION (MMC).
- SPHERICAL END DIMENSIONS SHALL CONFORM TO AS39029/58.

2. TOOLS:

TOOLS REQUIRED FOR CRIMPING CONTACTS TO THE 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 5. SUPERSEDING PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS AND PLATING:

SEE TABLE 4.

5. TENSILE STRENGTH:

SEE TABLE 4.

6. RANDOM VIBRATION:

CONNECTORS/CONTACTS SHALL BE TESTED IN ACCORDANCE WITH EIA-364-28. THE FOLLOWING DETAILS SHALL APPLY:

- TEST CONDITION V USING THE VIBRATION ENVELOPE SHOWN IN FIGURE 2. (DERIVED FROM ZONE 2, OUTLINED IN AIR1557.)
- VIBRATION TO BE CONDUCTED AT STANDARD TEST CONDITIONS.
- DURATION SHALL BE 8 HOURS IN THE LONGITUDINAL DIRECTION AND 8 HOURS IN A PERPENDICULAR DIRECTION FOR A TOTAL OF 16 HOURS.

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