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AS39029/27

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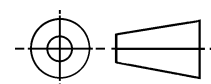
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THIRD ANGLE PROJECTION



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AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTOR,
SOCKET, CRIMP REMOVABLE, SHIELDED, SIZE 12
(FOR MIL-C-38999 SERIES II CONNECTORS)

AS39029/27
SHEET 1 OF 9

THE COMPLETE REQUIREMENTS FOR ACQUIRING THE CONTACTS DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF MIL-C-39029.

AS39029/27

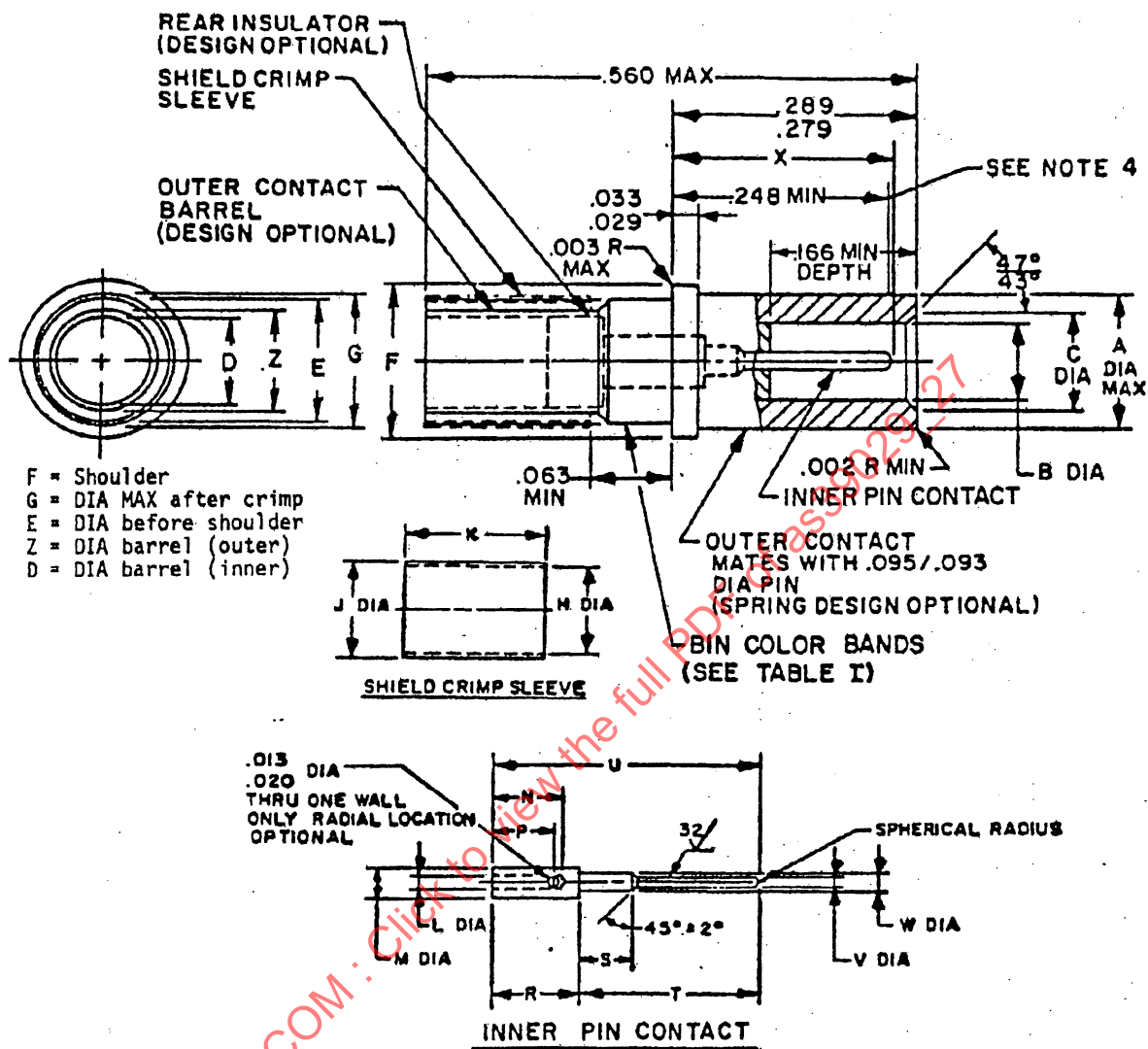


FIGURE 1. SOCKET CONTACTS.

BIN code	A Dia. MAX	B Dia.	C Dia.	D Dia. Min.	E Dia.	F Dia.	G Dia. Max.	H Dia. Min.	J Dia. Max.	K	L Dia. Min.	M Dia. Max.
210	.161	.100 .097	.123 .118	.090	.151 .148	.182 .179	.156	.127	.169	.125 .115	.0225	.052
402				.108				.144			.0225	
403				.108				.144			.0355	
404				.090				.127			.0355	
405				.090				.127	.169		.0225	
406				.117				.156	.174		.0270	
407				.090				.144	.169		.0225	
408	.161	.100 .097	.123 .118	.108	.151 .148	.182 .179	.156	.156	.174	.125 .115	.0355	.052

BIN code	N Min.	P	R	S	T	U REF.	V Dia.	W Dia.	X	Z Dia. Max.
210	.112	.103 .096	.146 .140	.039 .033	.222 .219	.3635	.0205 .0195	.035 .033	.276 .266	.110
402										.127
403										.127
404										.110
405										.110
406										.136
407										.110
408	.112	.103 .096	.146 .140	.039 .033	.222 .219	.3635	.0205 .0195	.035 .033	.276 .266	.127

INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
.002	0.05	.033	0.84	.096	2.44	.118	3.00	.151	3.84	.219	5.56
.003	0.08	.035	0.89	.097	2.46	.123	3.12	.156	3.96	.222	5.64
.013	0.33	.0355	0.902	.100	2.54	.125	3.18	.158	4.01	.248	6.30
.0195	0.495	.039	0.99	.103	2.62	.127	3.23	.161	4.09	.266	6.76
.020	0.51	.052	1.32	.108	2.74	.136	3.45	.166	4.22	.276	7.01
.0205	0.521	.063	1.60	.110	2.79	.140	3.56	.169	4.29	.279	7.09
.0225	0.572	.090	2.29	.112	2.84	.144	3.66	.174	4.42	.289	7.34
.027	0.69	.093	2.36	.115	2.92	.146	3.71	.179	4.55	.3635	9.233
.029	0.74	.095	2.41	.117	2.97	.148	3.76	.182	4.62	.560	14.22

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimensions shown apply after plating.
4. Point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring. Provision for clearance hole shall be provided.
5. Crimp deformation: The maximum diameter over the crimped portion of the shield crimp sleeve shall not exceed G diameter.

FIGURE 1. SOCKET CONTACTS - CONTINUED.

REQUIREMENTS:

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

Dimensions, design characteristics, and configuration: See figure 1 and table I.

Mating contacts: MIL-C-39029/28.

Tools: See table II.

TABLE I. DESIGN CHARACTERISTICS.

BIN code	Color bands			Cable accommodated	Contact cavity size	Type	Class
	1st	2nd	3rd				
210	Red	Brown	Black	M17/119-R3174 M17/113-R3316 M17/094-R3179 Times AA3248 Teledyne 11299 Thermax 75-738-BCCWYE Tensolite 30888/L707YX-1 Haveg 8100207	12	D	B
402	Yellow	Black	Red	M17/095-RG180 Raychem 9527D1514-2L Raychem 9528A1318 Microdot 293-3922	"	"	"
403	Yellow	Black	Orange	Microdot 250-4070	"	"	"
404	Yellow	Black	Yellow	Raychem 48-502 & 5022E5111	"	"	"
405	Yellow	Black	Green	Raychem 48-950 & 9530D5117	"	"	"
406	Yellow	Black	Blue	Raychem 7624D1311 Raychem 9527A1318	"	"	"
407	Yellow	Black	Violet	Sore GWN1159A	"	"	"
408	Yellow	Black	Gray	1S50MU-16, -20, -40, -70 MIL-C-24643/28	"	"	"

1/ Or equivalent.

2/ High tensile strength copper alloy wire.

TABLE II. TOOLS.

BIN code	Inner contact		Outer contact		Installing tool	Removal tool
	Basic crimping tool	Positioner	Basic crimping tool	Positioner		
210, 402, 403, 404, 405, 406, 407, 408	M22520/2-01	M22520/2-34	M22520/31-01	M22520/31-02	M81969/8-09 or M81969/14-04	M81969/8-10 or M81969/14-04

Mating cable: Mating cable shall be as specified in table III.

TABLE III. MATING CABLE TO CONTACT.

BIN code	Cable accommodated		Inner contact tool selector setting no.
210	<u>1/</u> <u>2/</u>	M17/119-RG174 M17/113-RG316 M17/094-RG179 Times AA3248 Teledyne 11299 Thermax 75-738-BCCWXE Tensolite 30888/L707YX-1 Havg 8100207	4 5 3 4 4 4 4 4
402	<u>1/</u>	M17/095-RG180 Raychem 952701514-2L Raychem 9528A1318 Microdot 293-3922	3 5 4 3
403	<u>1/</u>	Microdot 250-4070	4
404	<u>1/</u>	Raychem 48-502 & 5022E5111	4
405	<u>1/</u>	Raychem 48-950 & 9530D5117	3
406	<u>1/</u>	Raychem 7624D1311 Raychem 9527A1318	5 5
407	<u>1/</u>	Gore GWN1159A	4
408		1S50MU-16, -20, -40, -70 (MIL-C-24643/28)	4

1/ Or equivalent.

2/ High tensile strength copper alloy wire.

Contact resistance: See table IV.

Test current:

Inner contact - 1 ampere.
Outer contact - 12 amperes.

Low signal level contact resistance (inner contact only): See table V.

Contact engagement and separation forces (socket contact only): The engagement depth shall be as encountered in normal service. The test pins shall be in accordance with MS3197 except the diameters shall be as specified in the following, and surface roughness shall not exceed 3 microinches. Provision for clearance hole shall be provided.

Test pin diameter (inch)	Minimum separation force (ounces)		Maximum engagement force (ounces)		Maximum average engagement force
	Initial	After conditioning	Initial	After conditioning	
.0950 $\begin{smallmatrix} +.0002 \\ -.0000 \end{smallmatrix}$	NA	NA	30	36	NA
.0930 $\begin{smallmatrix} +.0000 \\ -.0002 \end{smallmatrix}$	3.0	2.5	NA	NA	NA

Dielectric withstanding voltage (applied between inner and outer contact):

Test voltage:

At sea level - 1,000 V ac rms.
At 50,000 feet - 250 V ac rms.

Tensile strength (inner and outer contact crimp joint): See table V.

TABLE IV. CONTACT RESISTANCE.

BIN code	Cable accommodated	Maximum voltage drop (millivolts)						Maximum average voltage drop
		25°C ^{+3°C} -0°C		1/ 25°C ^{+3°C} -0°C		200°C ^{+3°C} -0°C		
		Inner contact	Outer contact	Inner contact	Outer contact	Inner contact	Outer contact	
210	M17/119-RG174	55	85	66	102	94 <u>4/</u>	145 <u>4/</u>	NA
	M17/113-RG316	55	75	66	90	94	128	"
	M17/094-RG179	120	70	144	84	204	119	"
	Times AA3248	170	150	204	180	290	255	"
	Teledyne 11299	"	"	"	"	"	"	"
	Thermax	"	"	"	"	"	"	"
	75-738-BCCWXE	"	"	"	"	"	"	"
	Tensolite	"	"	"	"	"	"	"
	30888/L707YX-1	"	"	"	"	"	"	"
	Haveg 8100207	"	"	"	"	"	"	"

See footnotes at end of table.

TABLE IV. CONTACT RESISTANCE - CONTINUED.

BIN code	Cable accommodated	Maximum voltage drop (millivolts)						Maximum average voltage drop
		25°C +3°C -0°C		1/ 25°C +3°C -0°C		200°C +3°C -0°C		
		Inner contact	Outer contact	Inner contact	Outer contact	Inner contact	Outer contact	
402	M17/095-RG180	120	60	144	72	204	102	NA
	2/ { Raychem 9527D1514-2L	"	"	"	"	204 <u>5/</u>	102 <u>5/</u>	"
	Raychem 9528A1318	"	"	"	"	204 <u>5/</u>	102 <u>5/</u>	"
	Microdot 293-3922	"	"	"	"	204	102	"
403	2/ Microdot 250-4070	"	"	"	"	204	102	"
404	2/ Raychem 48-502 & 5022E5111	55	"	66	"	94 <u>5/</u>	102 <u>5/</u>	"
405	2/ Raychem 48-950 & 9530D5117	120	"	144	"	204 <u>5/</u>	102 <u>5/</u>	"
406	2/ { Raychem 7624D1311 Raychem 9527A1318	55	"	66	"	94 <u>5/</u>	102 <u>5/</u>	"
		120	"	144	"	204 <u>5/</u>	102 <u>5/</u>	"
407	2/ Gore GWN1159A	120	"	144	"	204	102	"
408	1S50MU-16, -20, -40, -70 (MIL-C-24643/28)	55	"	66	"	94 <u>4/</u>	102 <u>4/</u>	"

1/ After conditioning.

2/ Or equivalent.

3/ High tensile strength copper alloy wire.

4/ 85°C $+3^{\circ}\text{C}$
-0°C.

5/ 115°C $+3^{\circ}\text{C}$
-0°C.