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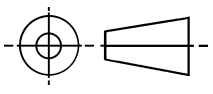

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AEROSPACE STANDARD

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

AS39029/27
SHEET 1 OF 9

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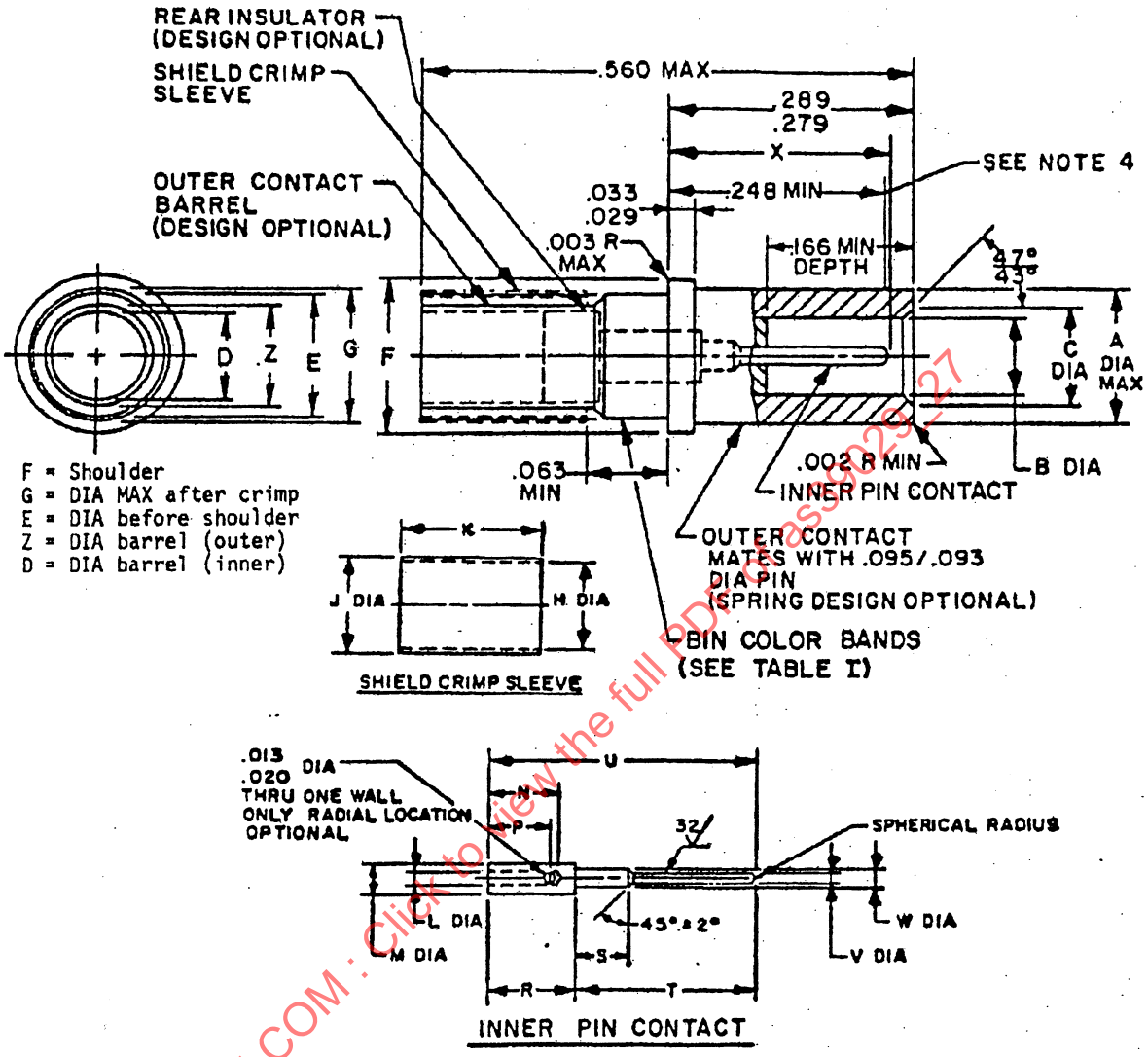

FIGURE 1. SOCKET CONTACTS.

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 1st	2nd	3rd	Cable accommodated	Contact cavity size	Type	Class
210	Red	Brown	Black	M17/119-RG174 M17/113-RG316 M17/094-RG179 1/ 2/ Times AA3248 Teledyne 11299 Thermax 75-738-BCCWXE Tensolite 30888/L707YX-1 Haveg 8100207	12	D	B
402	Yellow	Black	Red	M17/095-RG180 Raychem 9527D1514-2L Raychem 9528A1318 1/ Microdot 293-3922	"	"	"
403	Yellow	Black	Orange	1/ Microdot 250-4070	"	"	"
404	Yellow	Black	Yellow	1/ Raychem 48-502 & 5022E5111	"	"	"
405	Yellow	Black	Green	1/ Raychem 48-950 & 9530D5117	"	"	"
406	Yellow	Black	Blue	1/ Raychem 7624D1311 Raychem 9527A1318	"	"	"
407	Yellow	Black	Violet	1/ Gore 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	M17/119-RG174	4
	M17/113-RG316	5
	M17/094-RG179	3
	1/ 2/ Times AA3248	4
	Teledyne 11299	4
	Thermax 75-738-BCCWXE	4
	Tensolite 30888/L707YX-1	4
	Haveg 8100207	4
402	M17/095-RG180	3
	1/ Raychem 9527D1514-2L	5
	Raychem 9528A1318	4
	Microdot 293-3922	3
403	1/ Microdot 250-4070	4
404	1/ Raychem 48-502 & 5022E5111	4
405	1/ Raychem 48-950 & 953005117	3
406	1/ Raychem 7624D1311	5
	Raychem 9527A1318	5
407	1/ 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 +.0002 -.0000	NA	NA	30	36	NA
.0930 +.0000 -.0002	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) 25°C +3°C -0°C Inner contact	25°C +3°C -0°C Outer contact	1/ 25°C +3°C -0°C Inner contact	1/ 25°C +3°C -0°C Outer contact	200°C +3°C -0°C Inner contact	200°C +3°C -0°C Outer contact	Maximum average voltage drop
210	M17/119-RG174	55	85	66	102	94 4/	145 4/	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	"
	2/ Teledyne 11299	"	"	"	"	"	"	"
	3/ 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) 25°C +3°C -0°C Inner contact	25°C +3°C -0°C Outer contact	1/ 25°C +3°C -0°C Inner contact	1/ 25°C +3°C -0°C Outer contact	200°C +3°C -0°C Inner contact	200°C +3°C -0°C Outer contact	Maximum average voltage drop
402	M17/095-RG180	120	60	144	72	204	102	NA
	2/ Raychem 9527D1514-2L	"	"	"	"	204 5/	102 5/	"
	2/ Raychem 9528A1318	"	"	"	"	204 5/	102 5/	"
	2/ Microdot 293-3922	"	"	"	"	204	102	"
403	2/ Microdot 250-4070	"	"	"	"	204	102	"
404	2/ Raychem 48-502 & 5022E5111	55	"	66	"	94 5/	102 5/	"
405	2/ Raychem 48-950 & 9530D5117	120	"	144	"	204 5/	102 5/	"
406	2/ Raychem 7624D1311	55	"	66	"	94 5/	102 5/	"
	2/ Raychem 9527A1318	120	"	144	"	204 5/	102 5/	"
407	2/ Gore GWN1159A	120	"	144	"	204	102	"
408	1S50MU-16, -20, -40, -70 (MIL-C-24643/28)	55	"	66	"	94 4/	102 4/	"

1/ After conditioning.

2/ Or equivalent.

3/ High tensile strength copper alloy wire.

4/ 85°C +3°C -0°C.

5/ 115°C +3°C -0°C.