

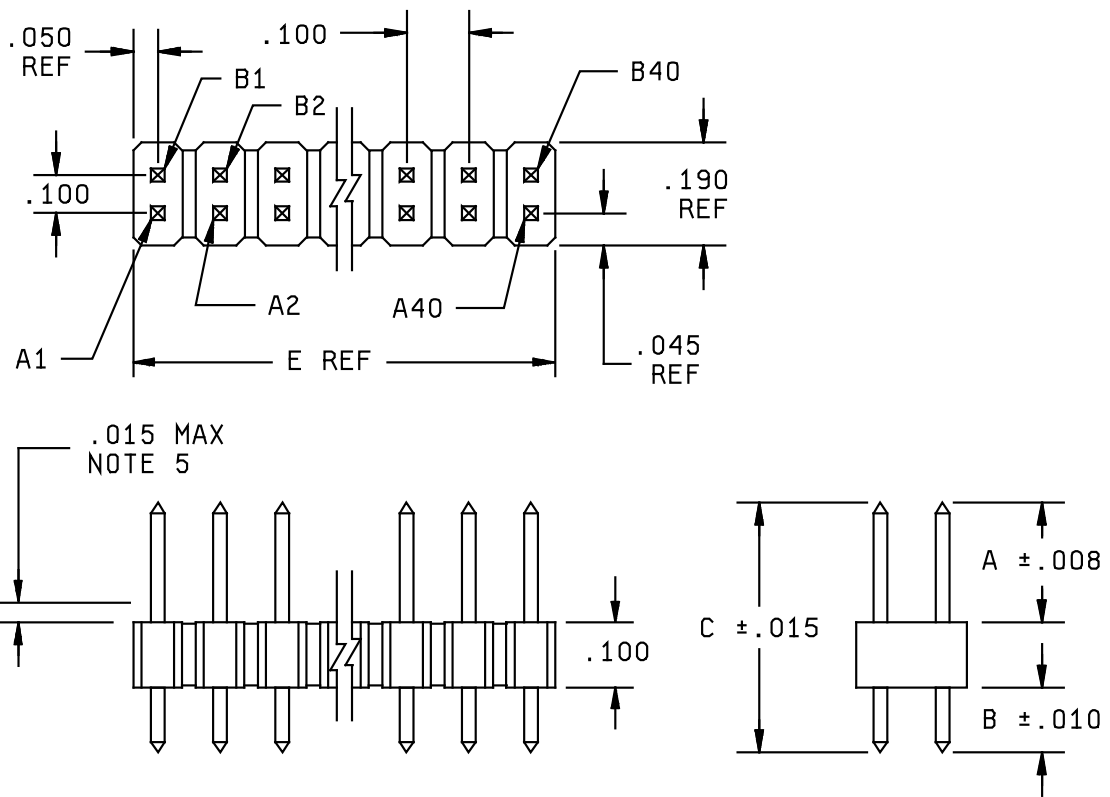
REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	Figure 1, made dimensional changes. TABLE III, added options up to 80 positions. Marking, changed marking requirements.	06/01/90	Richard Marbais
B	Figure 1, change .050 to a ref dimension. Add resistance to soldering heat test and add temperature range designator table (TABLE IV). Add new designator to part number table. Change CAGE 22526 address.	10/03/92	Randy Larson
C	Figure 1, change positions A and B to 40, add dash numbers 24 and 25. Delete CAGE 91506 as source.	8/23/93	Randy Larson
D	Table II change C and D contact finish to D and E.	11/22/93	Randy Larson
E	Add contact finish designator C, table I define contact and termination area. Change CAGE 95238 address.	03/29/95	Randy Larson
F	Change CAGE 14933 to 037Z3. Replace cancelled MIL-Specs with industry replacements. Incorporated wrappost configurations into document. Editorial changes throughout.	04/18/02	Robert Heber
G	Updating references and CAGE (8N187) Part or Identifying Numbers (PIN). Editorial changes throughout.	13 October 2010	Abdo Abdouni
H	Updating references and CAGE (8N187) Part or Identifying Numbers (PIN).	24 October 2011	Abdo Abdouni
J	Add option for selective plating to plating code "A".	17 October 2012	Abdo Abdouni
K	Change of source CAGE 95238 manufacture's name and location address. Removed source CAGE 8N187. Replace ASTM B488 with MIL-DTL-45204. Removed ASME Y14.100 and source control drawing.	22 January 2014	Abdo Abdouni

CURRENT DESIGN ACTIVITY CAGE CODE 037Z3
HAS CHANGED NAMES TO:
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

REV																			
PAGE																			
REV STATUS OF PAGES	REV	K	G	J	G	K	G	G	K	K									
	PAGE	1	2	3	4	5	6	7	8	9									

PMIC N/A	PREPARED BY Dave Leight	DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO 43218-3990																
Original date of drawing 30 Aug 1989	CHECKED BY Carl Dello-Stritto	TITLE CONNECTORS, ELECTRICAL, UNSHROUDED HEADERS, PWB TERMINATION, .025, DOUBLE ROW, STRAIGHT THRU																
	APPROVED BY Richard Marbais																	
	SIZE A	CAGE CODE 037Z3	DWG. NO. 89042															
	REV K	PAGE 1 OF 9																



Inches	mm
.008	0.20
.010	0.25
.015	0.38
.045	1.14
.050	1.27
.100	2.54
.190	4.83

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified all tolerances are $\pm .005$ (0.13 mm).
4. All undimensioned pictorial representations are for reference purposes only.
5. Plating transition area, contact finish "D" only.

FIGURE 1. Dimensions and configuration.

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TABLE I. Pin length. 1/ 2/

Dash number	Dimension A contact area (mm)		Dimension B Termination area (mm)		Dimension C Overall length (mm)	
01	.200	(5.08)	.110	(2.79)	.410	(10.41)
02	.230	(5.84)	.045	(1.14)	.375	(9.53)
03	.230	(5.84)	.095	(2.41)	.425	(10.80)
04	.230	(5.84)	.110	(2.79)	.440	(11.18)
05	.230	(5.84)	.150	(3.81)	.480	(12.19)
06	.230	(5.84)	.225	(5.72)	.555	(14.10)
07	.230	(5.84)	.285	(7.24)	.615	(15.62)
08	.230	(5.84)	.595	(15.11)	.925	(23.50)
09	.255	(6.48)	.120	(3.05)	.475	(12.07)
10	.285	(7.24)	.095	(2.41)	.480	(12.19)
11	.285	(7.24)	.230	(5.84)	.615	(15.62)
12	.318	(8.08)	.107	(2.72)	.525	(13.34)
13	.318	(8.08)	.120	(3.05)	.538	(13.67)
14	.318	(8.08)	.220	(5.59)	.638	(16.21)
15	.318	(8.08)	.318	(8.08)	.736	(18.69)
16	.318	(8.08)	.420	(10.67)	.838	(21.29)
17	.318	(8.08)	.520	(13.21)	.938	(23.83)
18	.400	(10.16)	.115	(2.92)	.615	(15.62)
19	.430	(10.92)	.120	(3.05)	.650	(16.51)
20	.500	(12.70)	.120	(3.05)	.720	(18.29)
21	.520	(13.21)	.318	(8.08)	.938	(23.83)
22	.540	(13.72)	.120	(3.05)	.760	(19.30)
23	.610	(15.49)	.115	(2.92)	.825	(20.96)
24	.270	(6.86)	.400	(10.16)	.770	(19.56)
25	.770	(19.56)	.295	(7.49)	1.165	(29.59)

1/ Dimensions are in inches.

2/ Metric equivalents are given for information.

TABLE II. Plating.

Plating	Contact area "A"	Termination area "B"
A 1/	Gold	Gold
B	Tin-lead plated	Tin-lead
C 1/	.200 inch(5.08 mm) min gold	Tin-lead plated
D	Gold –solder posts	Tin-dipped 2/
E	Tin-lead plated	Solder dipped
F 1/	.200 inch (5.08 mm) min gold	Solder dipped

1/ Selective gold plating applicable to contact pin lengths .230 inch (5.84 mm) and longer. Measured from tip of contact pin, remainder of contact post to be plated with nickel in accordance with SAE AMS-QQ-N-290, class 2, 50 microinch (1.27 μm) minimum.

2/ The use of pure tin is prohibited. Tin content used in connector materials shall not exceed 97 percent, and an alloy material shall be chosen to inhibit the growth of tin whiskers.

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TABLE III. Dimensions E. 1/ 2/

Number of positions	Dimensions	Number of positions	Dimensions
02	.100 (2.54)	42	2.100 (53.34)
04	.200 (5.08)	44	2.200 (55.88)
06	.300 (7.62)	46	2.300 (58.42)
08	.400 (10.16)	48	2.400 (60.96)
10	.500 (12.70)	50	2.500 (63.50)
12	.600 (15.24)	52	2.600 (66.04)
14	.700 (17.78)	54	2.700 (68.58)
16	.800 (20.32)	56	2.800 (71.12)
18	.900 (22.86)	58	2.900 (73.66)
20	1.000 (25.40)	60	3.000 (76.20)
22	1.100 (27.94)	62	3.100 (78.74)
24	1.200 (30.48)	64	3.200 (81.28)
26	1.300 (33.02)	66	3.300 (83.82)
28	1.400 (35.56)	68	3.400 (86.36)
30	1.500 (38.10)	70	3.500 (88.90)
32	1.600 (40.64)	72	3.600 (91.44)
34	1.700 (43.18)	74	3.700 (93.98)
36	1.800 (45.72)	76	3.800 (96.52)
38	1.900 (48.26)	78	3.900 (99.06)
40	2.000 (50.80)	80	4.000 (101.60)

1/ Dimensions are in inches.

2/ Metric equivalents are given for information.

TABLE IV. Temperature range.

PIN designator	Temperature range °C
Blank	-40 to +105
M	-55 to +125
H	-65 to +220

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REQUIREMENTS:

Shall meet the requirements of drawing 86100.

Dimensions and configuration: See figures 1, 3 and tables I, II, III.

Temperature range: See table IV.

Dielectric withstanding voltage: 1,000 volts rms (sea level).

Current rating: 3 amperes continuous to 5 amperes maximum.

Insulation resistance: 5,000 megohms.

Resistance to soldering heat: Only applicable for "H" temperature range (see table IV).

Materials:

Insulator: The insulator shall be one of the following types of plastic. All plastic material shall be rated V-0 in accordance with UL-94.

- a. Glass-or mineral-filled nylon in accordance with ASTM D4066.
- b. Glass filled thermoplastic in accordance with ASTM D5927 or MIL-M-24519.
- c. Thermoplastic polyphenylene sulfide type GST-40F in accordance with ASTM D4067.

Contact: Three-fourth hard phosphor bronze in accordance with ASTM B139/B139M.

Contact plating: Contact and termination plating shall be 50 microinches (1.27 μ m) gold in accordance with MIL-DTL-45204 or equivalent as approved by the qualifying and preparing activities, type II, grade C, class 1, or 100 microinches (2.54 μ m) minimum tin-lead in accordance with SAE AMS-P-81728 over 50 microinches (1.27 μ m) minimum nickel in accordance with SAE AMS-QQ-N-290, class 2. The "E" or "F" lead finish shall be hot solder dipped with SN60 or SN63 solder in accordance with IPC-J-STD-006 to meet the solderability requirements of MIL-STD-202, method 208.

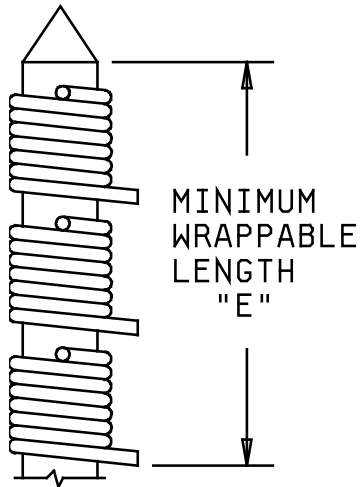
Selective plating: Selective gold contact plating is for contact pin lengths .230 inch (5.84 mm) and longer. The gold plating is measured from tip of contact pin to pin body and the plating length shall be .200 inch (5.08 mm). The contact shall be plated with gold in accordance with MIL-DTL-45204 or equivalent as approved by the qualifying and preparing activities, type II, grade C, class 1 (50 microinches) over 50 microinches (1.27 μ m) of nickel in accordance with SAE AMS-QQ-N-290. Nickel plating shall extend over the entire length of the pin. The recommended use of this finish is for mating with latch housings or PWB housings where the mating depth does not exceed .190 inches (4.83 mm).

Solderless wrappost: The solderless wrappost termination shall be in accordance with figures 2 and 3.

Interface: See drawings 86038, 86103, 92025, 92026, 92027, and 92028.

Printed wiring board (PWB) hole size: .040 inch \pm .003 inch (1.02 \pm 0.076 mm).

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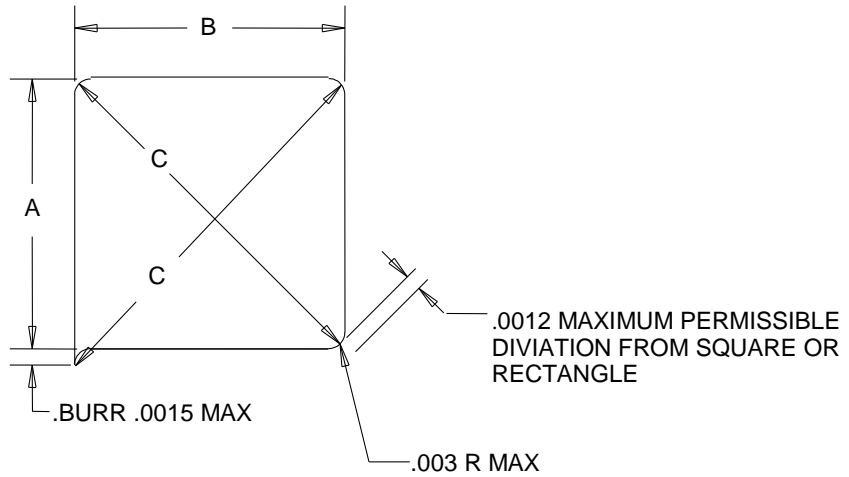
Number of wrapped connections	E length						
	Wire gage 30 (mm)	Wire gage 28 (mm)	Wire gage 26 (mm)	Wire gage 24 (mm)	Wire gage 22 (mm)	Wire gage 20 (mm)	Wire gage 18 (mm)
1	.185 (4.70)	.219 (5.56)	.226 (5.74)	.258 (6.55)	.303 (7.70)	.327 (8.31)	.391 (9.93)
2	.320 (8.13)	.388 (9.86)	.402 (10.21)	.466 (11.84)	.556 (14.12)	.604 (15.34)	.732 (18.59)
3	.455 (11.56)	.557 (14.15)	.578 (14.68)	.674 (17.12)	.809 (20.55)	.881 (22.38)	1.073 (27.25)

NOTES:

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2. Metric equivalents are given for information only.

FIGURE 2. Wrappable length (typical connection).

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Inches	mm
.0012	0.030
.0015	0.038
.003	0.076

A (mm)	B (mm)	C (mm)	Parallelism (mm)	Straightness Inch/inch (mm)
.025 (0.64) nominal .022 (0.56) min	.025 (0.64) nominal .022 (0.56) min	.0355 (0.902) max .0325 (0.826) min	.002 (0.05)	.005 (0.13)

NOTES:

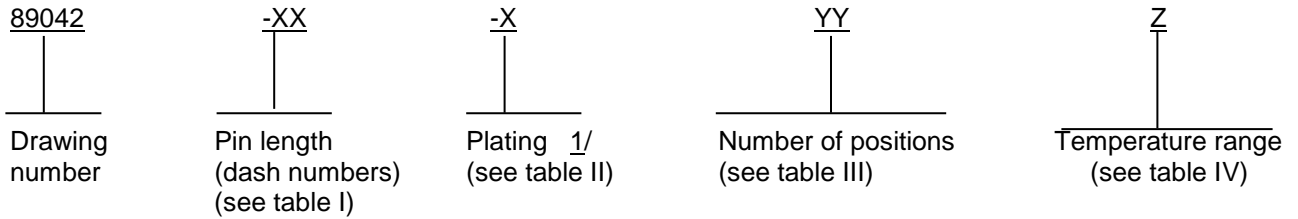
1. Dimensions are in inches.
2. Metric equivalents are given for information only.

FIGURE 3. Wrappost geometry.

Marking: The Part or Identifying Number (PIN) shall be marked on the housing and package in accordance with MIL-STD-1285. If size, surface condition, or other design considerations don't allow for full marking on the part, marking on the package is only required. The PIN shall include the complete DLA Land and Maritime PIN, manufacturer's name or CAGE code, and date code. The marking shall be permanent and legible in accordance with method 215 of MIL-STD-202.

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The PIN shall be constructed using the following format:



1/ Plating designator “C”, selective plating, is not suitable for wire wrap applications.

Approved source of supply: An approved source of supply is listed herein. Additional sources will be added as they become available. The vendor listed on the requirements drawing has agreed to this drawing and a certificate of compliance has been submitted to DLA Land and Maritime-VAI.

DLA Land and Maritime Drawing PIN	Vendor CAGE number	
	OAKZ5 <u>1/</u> <u>2/</u> <u>3/</u>	95238 <u>1/</u>
89042-01-X-YYZ	SPEG042Z-01-XYYMIL	H210-YY-01-XZ
89042-02-X-YYZ	SPEG042Z-02-XYYMIL	H210-YY-02-XZ
89042-03-X-YYZ	SPEG042Z-03-XYYMIL	H210-YY-03-XZ
89042-04-X-YYZ	SPEG042Z-04-XYYMIL	H210-YY-04-XZ
89042-05-X-YYZ	SPEG042Z-05-XYYMIL	H210-YY-05-XZ
89042-06-X-YYZ	SPEG042Z-06-XYYMIL	H210-YY-06-XZ
89042-07-X-YYZ	SPEG042Z-07-XYYMIL	H210-YY-07-XZ
89042-08-X-YYZ	SPEG042Z-08-XYYMIL	H210-YY-08-XZ
89042-09-X-YYZ	SPEG042Z-09-XYYMIL	H210-YY-09-XZ
89042-10-X-YYZ	SPEG042Z-10-XYYMIL	H210-YY-10-XZ
89042-11-X-YYZ	SPEG042Z-11-XYYMIL	H210-YY-11-XZ
89042-12-X-YYZ	SPEG042Z-12-XYYMIL	H210-YY-12-XZ
89042-13-X-YYZ	SPEG042Z-13-XYYMIL	H210-YY-13-XZ
89042-14-X-YYZ	SPEG042Z-14-XYYMIL	H210-YY-14-XZ
89042-15-X-YYZ	SPEG042Z-15-XYYMIL	H210-YY-15-XZ
89042-16-X-YYZ	SPEG042Z-16-XYYMIL	H210-YY-16-XZ
89042-17-X-YYZ	SPEG042Z-17-XYYMIL	H210-YY-17-XZ
89042-18-X-YYZ	SPEG042Z-18-XYYMIL	H210-YY-18-XZ
89042-19-X-YYZ	SPEG042Z-19-XYYMIL	H210-YY-19-XZ
89042-20-X-YYZ	SPEG042Z-20-XYYMIL	H210-YY-20-XZ
89042-21-X-YYZ	SPEG042Z-21-XYYMIL	H210-YY-21-XZ
89042-22-X-YYZ	SPEG042Z-22-XYYMIL	H210-YY-22-XZ
89042-23-X-YYZ	SPEG042Z-23-XYYMIL	H210-YY-23-XZ
89042-24-X-YYZ	SPEG042Z-24-XYYMIL	H210-YY-24-XZ
89042-25-X-YYZ	SPEG042Z-25-XYYMIL	H210-YY-25-XZ

1/ Parts must be purchased to this DLA Land and Maritime PIN to assure that all performance requirements and tests are met.

2/ Vendor PIN covers “Blank” and “M” temperature ranges only.

3/ Vendor PIN applicable to “Blank” temperature range only.

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Vendor CAGE
number

OAKZ5

95238

Vendor name
and address

Mueller-Crane
1208 Massillon Road
Building G Suite 1500n
Akron OH 44306

Winchester Electronics Corp.
199 Park Road Extension
Suite 104
Middlebury, CT 06762

**DEFENSE SUPPLY CENTER, COLUMBUS
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