

**REVISIONS**

LTR	DESCRIPTION	DATE	APPROVED
A	Pages 4, 7, 8, and 9 changed tolerance on some dimensions. Page 11 added patent statement. Pages 6 through 12 added 58 new parts.	06 MAR 1986	Ivan Jones
B	Added 112 new parts.	23 MAR 1987	Ivan Jones
C	Added suffix to part number for optional index pin.	06 AUG 1987	Randy Larson
D	Added kit version of parts. Added black anodize and unfinished housing options. Changed marking requirements. Editorial changes throughout.	21 JUL 1989	Randy Larson
E	Added dash numbers 199 to 222. Editorial changes throughout.	14 OCT 1994	John Raye
F	NOR	16 NOV 1994	John Raye
G	Replaced cancelled documents. Editorial changes throughout.	30 AUG 2001	Thomas Hess
H	Replaced cancelled documents. Editorial changes throughout.	13 OCT 2016	Thomas Hess

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



Prepared in accordance with ASME Y14.100

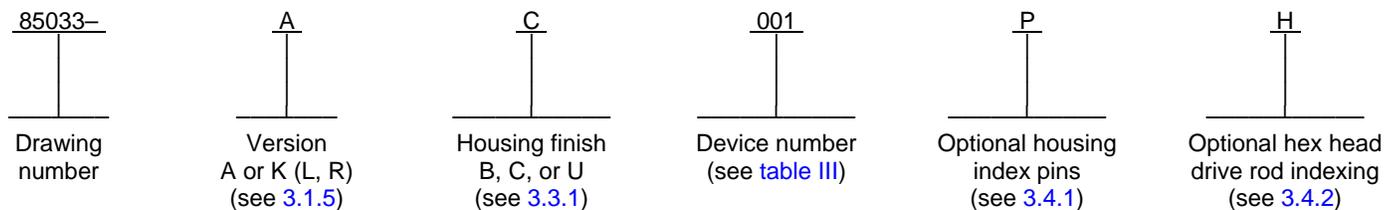
REV	H	H	H	H	H	H	H											
PAGE	16	17	18	19	20	21	22											
REV STATUS OF PAGES	REV	H		H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
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PMIC N/A	PREPARED BY Dan McGrath	DESIGN ACTIVITY DEFENSE ELECTRONICS SUPPLY CENTER, DAYTON, OH 45444-5000
Original date of drawing 22 March 1984	CHECKED BY Randy Larson	TITLE <b>HOLDER, ELECTRICAL CARD, METAL CARD GUIDE, ZERO INSERTION FORCE</b>
	APPROVED BY Ivan Jones	
	SIZE <b>A</b>	CAGE CODE 14933
	REV H	PAGE 1 OF 22

1. SCOPE

1.1 Scope. This drawing describes the requirements for a family of zero insertion force (ZIF) card guides intended for use with printed circuit boards and circuit card assemblies in high shock and vibration environments.

1.2 Part or Identifying Number (PIN). The complete PIN shall be as follows:



NOTE: Select ZIF electrical card holder options from the above appropriate paragraphs as in the following example:

Example: 85033-AB211PH (DESC drawing ZIF electrical card holder with the following options; assembly, black anodize, housing number 14, E type rod assembly, .062 inch (1.5748 mm) board thickness, right handed, optional housing indexing pins, and has the optional yellow hex head.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract (see 6.2).

FEDERAL SPECIFICATIONS

A-A-56032 - Ink, Marking, Epoxy Base.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-5541 - Chemical Conversion Coatings on Aluminum and Aluminum Alloys.  
 MIL-A-8625 - Anodic Coatings for Aluminum and Aluminum Alloys.  
 MIL-DTL-14072 - Finishes for Ground Based Electronic Equipment.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-1285 - Marking of Electrical and Electronic Parts.

(Copies of these documents are available online at <http://quicksearch.dla.mil>.)

<b>DEFENSE ELECTRONICS SUPPLY CENTER</b> <b>DAYTON, OH 45444</b>	SIZE	CAGE CODE	DWG NO.
	<b>A</b>	<b>14933</b>	<b>85033</b>
		REV <b>H</b>	PAGE <b>2</b>

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents are those cited in the solicitation or contract (see 6.2).

**AEROSPACE INDUSTRIES ASSOCIATION (AIA)**

- NASM51923 – Pin, Spring, Tubular, Coiled, Standard Duty.
- NAS1407 – Pin, Spring, Coiled.

(Copies of these documents are available online at <http://www.aia-aerospace.org>.)

**ASTM INTERNATIONAL (ASTM)**

- ASTM D4066 – Standard Classification System for Nylon Injection and Extrusion Materials (PA).
- ASTM B194 – Standard Specification for Copper-Beryllium Alloy Plate, Sheet, Strip, and Rolled Bar.

(Copies of these documents are available online at <http://www.astm.org>.)

**SAE INTERNATIONAL (SAE)**

- AMS 2700 – Passivation of Corrosion Resistant Steels.
- AMS-C-26074 –
- AMS-QQ-A-200 – Aluminum Alloy, Bar, Rod, Shapes, Structural Shapes, Tube, and Wire, Extruded; General Specification for.
- AMS-QQ-S-763 – Steel Bars, Wire, Shapes, and Forgings; Corrosion Resistant.

(Copies of these documents are available online at <http://www.sae.org>.)

(Non-Government Standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

**3. REQUIREMENTS**

3.1 Interface and physical dimensions. See figures 1 through 6 and tables I, II and III.

3.1.1 Housing. See figure 1, tables I and II.

3.1.2 Rod assembly types. See figures 2, 3, 4, and 5 and table III. The rod assembly types are as follows:

- Type A (see figure 2) = Pin drive with aluminum rod (6.0 inch (152.4 mm) maximum length).
- Type B (see figure 2) = Pin drive with steel rod.
- Type C (see figure 3) = Slotted (screwdriver) drive with steel rod (4.5 inch (114.3 mm) maximum length).
- Type D (see figure 4) = 1/4 Hex head drive with aluminum rod.
- Type E (see figure 5) = 3/16 hex head drive with aluminum rod, with unpainted indexing (6.0 inch maximum length).
- Type F (see figure 5) = 3/16 hex head drive with steel rod, with unpainted indexing.

3.1.3 Spring. The spring lengths shall be specified in table I.

3.1.3.1 Spring tolerance. Tolerance on spring length shall be +.010 inch (0.254 mm) and -.030 inch (0.762 mm).

3.1.4 Design and dimensions of assembled parts. See table III.

<b>DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444</b>	SIZE	CAGE CODE	DWG NO.
	<b>A</b>	<b>14933</b>	<b>85033</b>
		REV <b>H</b>	PAGE <b>3</b>

3.1.5 Version. Card holders are available in either assembled or unassembled (kit) version. A kit consists of a housing, a rod assembly, and a spring. Use an "A" in the PIN for assembled card holder, or a "K" in the PIN for a kit when ordering card holder with rod types A, B, C, E, and F. When selecting for the kit version with the rod type D, right (R) or left (L) hand need to be selected, see device number and dimension detail in [table III](#).

TABLE I. Housing details.

Housing number	A	B	C	D	Mounting holes					Spring length	Number of mounting holes
					E	F	G	H	J		
03	1.5	.75		.50	1.25					1.5	2
04	2.0	1.00		1.00	1.75						
05	2.5	1.25		1.50	2.25						
06	3.0	.75	1.5	2.00	1.50	2.75				3.0	3
07	3.5	1.00	1.5	2.50	1.75	3.25					
08	4.0	1.25	1.5	3.00	2.00	3.75					
09	4.5	.75	3.0	3.50	2.25	4.25				4.5	4
10	5.0	1.00	3.0	4.00	1.75	3.25	4.75				
11	5.5	1.25	3.0	4.50	2.00	3.50	5.25				
12	6.0	.75	4.5	5.00	2.00	4.00	5.75			6.0	4
13	6.5	1.00	4.5	5.50	2.25	4.25	5.25				
14	7.0	1.25	4.5	6.00	2.50	4.50	6.75				
15	7.5	2.25	3.0	6.50	2.00	3.75	5.50	7.25		7.5	5
16	8.0	2.50	3.0	7.00	2.00	4.00	6.00	7.75			
17	8.5	2.75	3.0	7.50	2.25	4.25	6.25	8.25			
18	9.0	3.75	1.5	8.00	2.50	4.50	6.50	8.75		9.0	6
19	9.5	4.00	1.5	8.50	2.00	3.75	5.75	7.50	9.25		
20	10.0	4.25	1.5	9.00	2.00	4.00	6.00	8.00	9.75		
21	10.5	5.25		9.50	2.25	4.25	6.25	8.25	10.25	10.5	

3.2 Materials.

3.2.1 Housing. Aluminum alloy 6063-T6 extrusion shall be in accordance with [AMS-QQ-A-200](#).

3.2.2 Housing index pins. Aluminum alloy 6061-T6 extrusion in accordance with [AMS-QQ-A-200](#).

3.2.3 Rod and rod assembly associated parts.

3.2.3.1 Aluminum (types A, D, and E). Aluminum alloy 7075-T6 extrusion shall be in accordance with [AMS-QQ-A-200](#).

3.2.3.1.1 Pin drive (types A and B). Stainless steel alloy shall be in accordance with [AMS-QQ-S-763](#).

3.2.3.2 Stainless steel (types B, C, and F). Stainless steel alloy type 304 shall be in accordance with [AMS-QQ-S-763](#).

3.2.3.2.1 Hex head drive. Aluminum alloy 6061-T6 extrusion shall be in accordance with [AMS-QQ-A-200](#).

3.2.3.3 Anti-rotational pin (type D only). Stainless steel alloy shall be in accordance with [AMS-QQ-S-763](#).

3.2.4 Spring. Beryllium copper alloy 172 shall be in accordance with [ASTM B194](#).

<b>DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444</b>	SIZE	CAGE CODE	DWG NO.
	<b>A</b>	<b>14933</b>	<b>85033</b>
		REV <b>H</b>	PAGE <b>4</b>

TABLE II. Board thickness details.

Board thickness Inches (mm)	Dimension "K" (reference) Inches (mm)	Dimension "L" (reference) Inches (mm)
.062 (1.57)	.063 (1.60)	.400 (10.16)
.093 (2.36)	.079 (2.00)	.447 (11.35)
.125 (3.18)	.082 (2.08)	.478 (12.14)

3.3 Finish.

3.3.1 Housing. The card holder housing finish shall be either black anodize in accordance with [MIL-A-8625](#), chemical film (irridite) in accordance with [MIL-DTL-5541](#), or unfinished. Housings with a black anodize finish shall include a suffix "B" in the PIN. Housings with a chemical film finish shall include a suffix "C" in the PIN. Housings with no finish shall include a suffix "U" in the PIN (see [1.2](#)).

3.3.2 Rod. For aluminum type, the finish shall be black anodize in accordance with [MIL-A-8625](#), type II. For steel type, the finish shall be passivated in accordance with [MIL-DTL-14072](#).

3.3.3 Spring. Electroless nickel in accordance with [AMS-C-26074](#), class 2.

3.4 Optional features.

3.4.1 Optional housing index pins. Optional housing index pins are shown on [figure 1](#). A suffix "P" shall be added to the PIN (see [1.2](#)) when optional housing index pins are required.

3.4.2 Optional yellow hex head indexing (rod assembly types E or F only). Optional yellow hex head indexing are shown on [figure 6](#). The hex head of the drive rod shall be indexed with a groove to indicate locked or unlocked positions in accordance with [figure 6](#). A suffix "H" shall be added to the PIN (see [1.2](#)) when optional yellow hex head indexing is required.

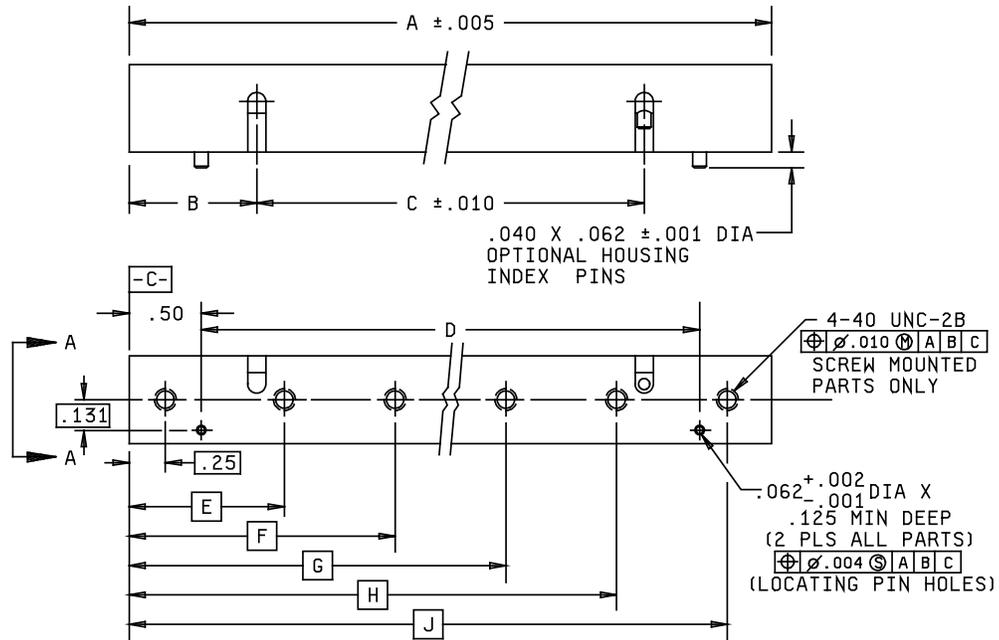
3.5 Certificate of compliance. A certificate of compliance shall be required from manufacturers requesting to be a suggested source of supply.

3.6 Marking. Marking of the DESC PIN on the card guide is not required; however, each unit package shall be marked in accordance with [MIL-STD-1285](#) and include the PIN as specified herein (see [1.2](#)), the manufacturer's name or Commercial and Government Entity (CAGE) code, and date lot codes.

3.7 Recycled, recovered, environmentally preferable materials, or biobased materials. Recycled, recovered, environmentally preferable, or biobased materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.8 Workmanship. Card holders shall be processed in such a manner as to be uniform in quality and shall be free from surface and finish flaws that could affect life or serviceability. Burrs, chipping, and cracking are unacceptable.

<b>DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444</b>	SIZE	CAGE CODE	DWG NO.
	<b>A</b>	<b>14933</b>	<b>85033</b>
		REV <b>H</b>	PAGE <b>5</b>



NOTE: See [table I](#) for dimensions A through J.

FIGURE 1. Housing design and dimensions.

DEFENSE ELECTRONICS SUPPLY CENTER  
DAYTON, OH 45444

SIZE  
**A**

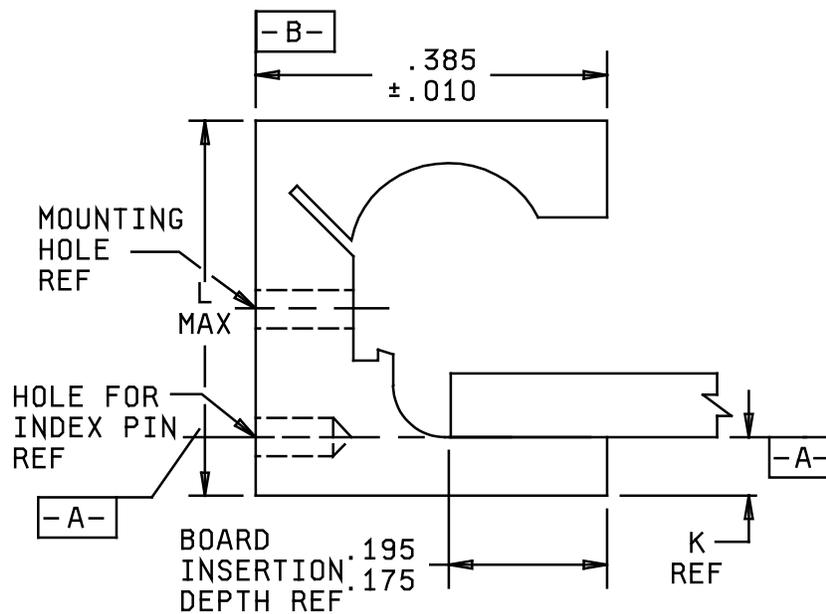
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**14933**

DWG NO.

**85033**

REV **H**

PAGE **6**



See [table II](#) for board thickness details.

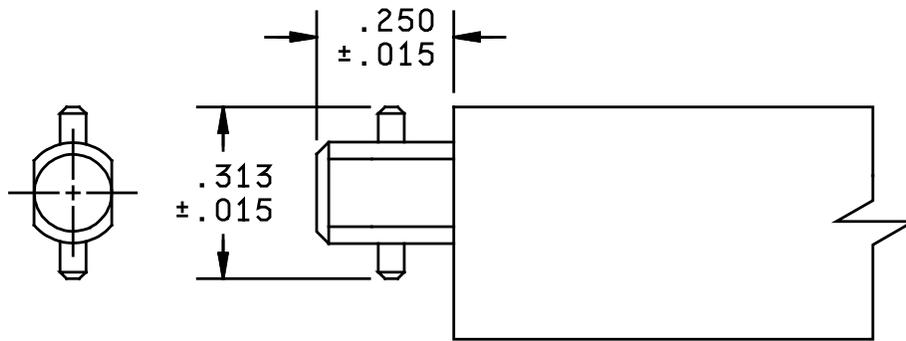
Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	0.025	.062	1.58	.125	3.18	.385	9.78
.002	0.05	.063	1.60	.131	3.33	.400	10.16
.004	0.10	.079	2.00	.175	4.45	.447	11.35
.005	0.13	.082	2.08	.195	4.95	.478	12.14
.010	0.25	.093	2.36	.250	6.35	.50	12.70
.040	1.01						

NOTES:

1. Dimensions are in inches. Metric equivalents are given for general information only.
2. Unless otherwise specified, tolerance is  $\pm 0.02$  inch (0.5 mm) for two place decimals and  $\pm 0.010$  (0.25 mm) for three place decimals.

FIGURE 1. Housing design and dimensions – Continued.

<b>DEFENSE ELECTRONICS SUPPLY CENTER</b> <b>DAYTON, OH 45444</b>	SIZE <b>A</b>	CAGE CODE <b>14933</b>	DWG NO. <b>85033</b>
		REV <b>H</b>	PAGE <b>7</b>

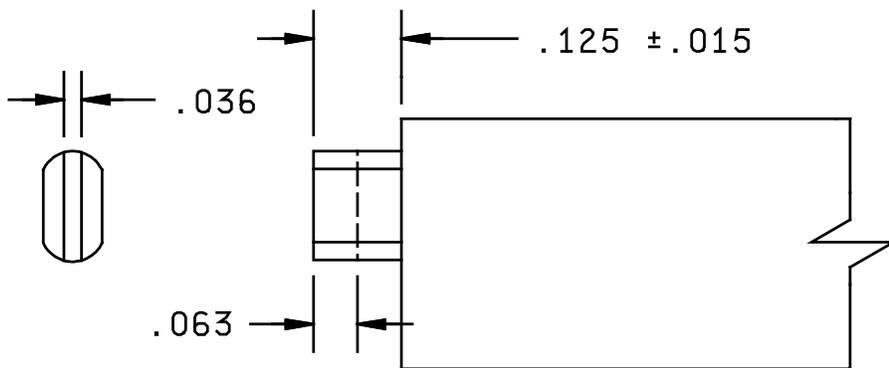


Inches	mm	Inches	mm
.015	0.38	.313	7.95
.250	6.35		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm 0.010$  inch (0.25 mm) for two place decimals and  $\pm 0.005$  (0.13 mm) for three place decimals.

FIGURE 2. Dimensions of pin drive rod, types A and B.



Inches	mm	Inches	mm
.015	0.38	.063	1.60
.036	0.91	.125	3.18

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm 0.010$  inch (0.25 mm) for two place decimals and  $\pm 0.005$  (0.13 mm) for three place decimals.

FIGURE 3. Dimensions of screwdriver slot drive rod, type C.

**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE  
**A**

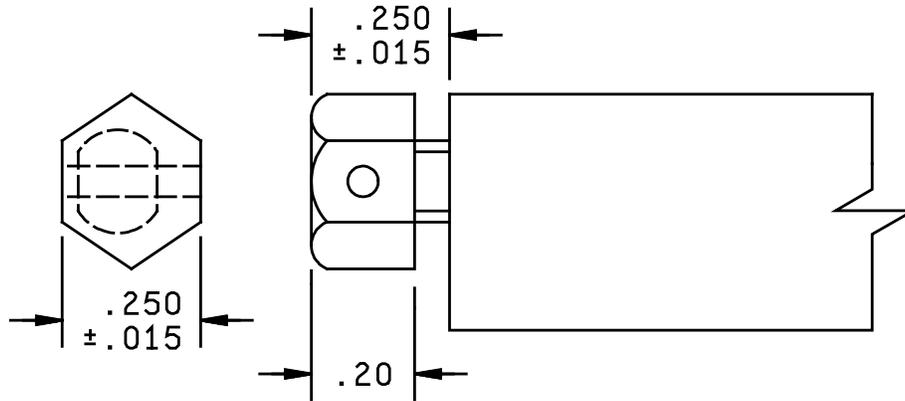
CAGE CODE  
**14933**

DWG NO.

**85033**

REV **H**

PAGE **8**

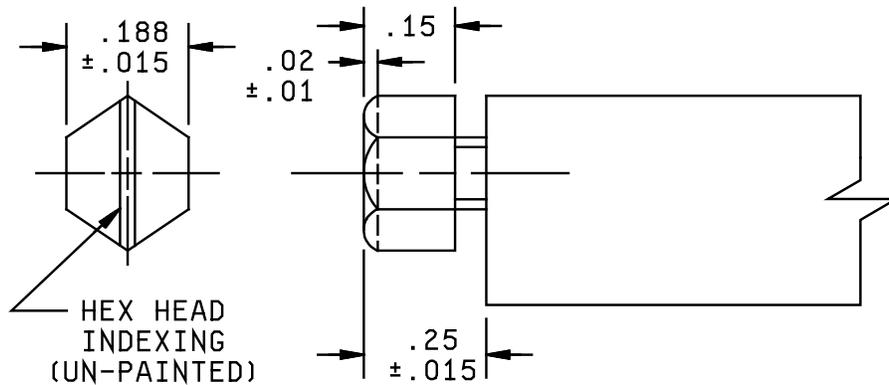


Inches	mm	Inches	mm
.015	0.38	.250	6.35
.20	5.08		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm .010$  inch (0.25 mm) for two place decimals and  $\pm .005$  (0.13 mm) for three place decimals.

FIGURE 4. Dimensions of .25 inch (0.635 mm) hex-head drive (with aluminum rod), type D.



Inches	mm	Inches	mm
.015	0.38	.250	6.35
.188	4.78		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm .010$  inch (0.25 mm) for two place decimals and  $\pm .005$  (0.13 mm) for three place decimals.

FIGURE 5. Dimensions of .188 inch (4.7625 mm) hex-head drive (with aluminum or steel rod), types E and F.

**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

REV

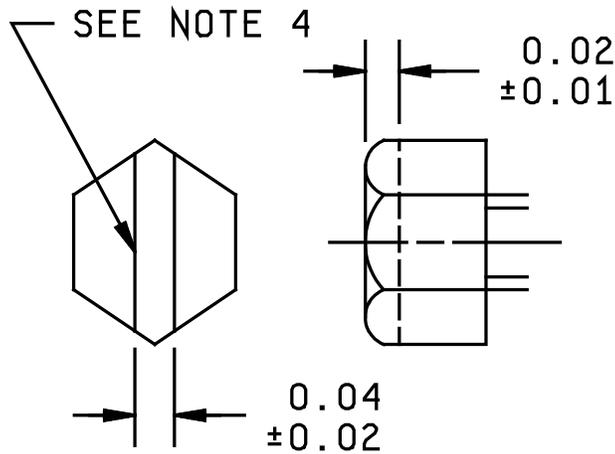
**H**

DWG NO.

**85033**

PAGE

**9**



**ORIENTATION OF GROOVE  
HEX HEAD INDEXING**

Inches	mm	Inches	mm
.01	0.3	.04	1.0
.02	0.5		

**NOTES:**

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm 0.010$  inch (0.25 mm) for two place decimals and  $\pm 0.005$  inch (0.13 mm) or three place decimals.
4. The method in which the hex head indexing groove is applied is optional (cut, stamped, machined, etc.). The indexing groove indicates that the card holder is in the locked position when the indexing groove is 90 degrees from the plane of the circuit card assembly and in the unlocked position when the indexing groove is parallel to the plane of the circuit card assembly. The groove surface shall be coated in accordance with [A-A-56032](#) using yellow ink, the yellow ink will appear in the indexing groove, only. Thickness and adhesion testing shall not be required. The groove shall be treated to prevent corrosion.

FIGURE 6. Dimensions of .188 inch (4.7625 mm) hex-head drive (with optional yellow hex drive rod indexing), types E and F.

<b>DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OH 45444</b>	SIZE	CAGE CODE	DWG NO.
	<b>A</b>	<b>14933</b>	<b>85033</b>
		REV <b>H</b>	PAGE <b>10</b>

TABLE III. Device numbers and dimensions.

PIN device number	Housing number	Rod assembly type	Board thickness	R = Right L = Left	PIN device number	Housing number	Rod assembly type	Board thickness	R = Right L = Left
	<u>1/</u>	<u>2/</u>	<u>3/</u>		number	<u>1/</u>	<u>2/</u>	<u>3/</u>	
001	09	A	.062	R	031	05	C	.125	R
002	09	B	.062	R	032	05	D	.125	R
003	09	C	.062	R	033	06	A	.125	R
004	09	D	.062	R	034	06	B	.125	R
005	09	A	.093	R	035	06	C	.125	R
006	09	B	.093	R	036	06	D	.125	R
007	09	C	.093	R	037	07	A	.125	R
008	09	D	.093	R	038	07	B	.125	R
009	09	A	.062	L	039	07	C	.125	R
010	09	B	.062	L	040	07	D	.125	R
011	09	C	.062	L	041	08	A	.125	R
012	09	D	.062	L	042	08	B	.125	R
013	09	A	.093	L	043	08	C	.125	R
014	09	B	.093	L	044	08	D	.125	R
015	09	C	.093	L	045	09	A	.125	R
016	09	D	.093	L	046	09	B	.125	R
017	12	A	.062	R	047	09	C	.125	R
018	12	B	.062	R	048	09	D	.125	R
019	12	D	.062	R	049	10	A	.125	R
020	12	A	.093	R	050	10	B	.125	R
021	12	B	.093	R	051	10	D	.125	R
022	12	D	.093	R	052	11	A	.125	R
023	12	A	.062	L	053	11	B	.125	R
024	12	B	.062	L	054	11	D	.125	R
025	12	D	.062	L	055	12	A	.125	R
026	12	A	.093	L	056	12	B	.125	R
027	12	B	.093	L	057	12	D	.125	R
028	12	D	.093	L	058	05	A	.125	L
029	05	A	.125	R	059	05	B	.125	L
030	05	B	.125	R	060	05	C	.125	L

See footnotes at end of table.

**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**11**

TABLE III. Device numbers and dimensions – Continued.

PIN device number	Housing number	Rod assembly type	Board thickness	R = Right L = Left	PIN device number	Housing number	Rod assembly type	Board thickness	R = Right L = Left
	<u>1/</u>	<u>2/</u>	<u>3/</u>		number	<u>1/</u>	<u>2/</u>	<u>3/</u>	
063	06	B	.125	L	093	04	C	.062	R
064	06	C	.125	L	094	04	D	.062	R
065	06	D	.125	L	095	05	A	.062	R
066	07	A	.125	L	096	05	B	.062	R
067	07	B	.125	L	097	05	C	.062	R
068	07	C	.125	L	098	05	D	.062	R
069	07	D	.125	L	099	06	A	.062	R
070	08	A	.125	L	100	06	B	.062	R
071	08	B	.125	L	101	06	C	.062	R
072	08	C	.125	L	102	06	D	.062	R
073	08	D	.125	L	103	07	A	.062	R
074	09	A	.125	L	104	07	B	.062	R
075	09	B	.125	L	105	07	C	.062	R
076	09	C	.125	L	106	07	D	.062	R
077	09	D	.125	L	107	08	A	.062	R
078	10	A	.125	L	108	08	B	.062	R
079	10	B	.125	L	109	08	C	.062	R
080	10	D	.125	L	110	08	D	.062	R
081	11	A	.125	L	111	03	A	.062	L
082	11	B	.125	L	112	03	B	.062	L
083	11	D	.125	L	113	03	C	.062	L
084	12	A	.125	L	114	03	D	.062	L
085	12	B	.125	L	115	04	A	.062	L
086	12	D	.125	L	116	04	B	.062	L
087	03	A	.062	R	117	04	C	.062	L
088	03	B	.062	R	118	04	D	.062	L
089	03	C	.062	R	119	05	A	.062	L
090	03	D	.062	R	120	05	B	.062	L

See footnotes at end of table.

**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**12**

TABLE III. Device numbers and dimensions – Continued.

PIN device number	Housing number	Rod assembly type	Board thickness	R = Right L = Left	PIN device number	Housing number	Rod assembly type	Board thickness	R = Right L = Left
	<u>1/</u>	<u>2/</u>	<u>3/</u>			<u>1/</u>	<u>2/</u>	<u>3/</u>	
123	06	A	.062	L	153	07	C	.093	R
124	06	B	.062	L	154	07	D	.093	R
125	06	C	.062	L	155	08	A	.093	R
126	06	D	.062	L	156	08	B	.093	R
127	07	A	.062	L	157	08	C	.093	R
128	07	B	.062	L	158	08	D	.093	R
129	07	C	.062	L	159	03	A	.093	L
130	07	D	.062	L	160	03	B	.093	L
131	08	A	.062	L	161	03	C	.093	L
132	08	B	.062	L	162	03	D	.093	L
133	08	C	.062	L	163	04	A	.093	L
134	08	D	.062	L	164	04	B	.093	L
135	03	A	.093	R	165	04	C	.093	L
136	03	B	.093	R	166	04	D	.093	L
137	03	C	.093	R	167	05	A	.093	L
138	03	D	.093	R	168	05	B	.093	L
139	04	A	.093	R	169	05	C	.093	L
140	04	B	.093	R	170	05	D	.093	L
141	04	C	.093	R	171	06	A	.093	L
142	04	D	.093	R	172	06	B	.093	L
143	05	A	.093	R	173	06	C	.093	L
144	05	B	.093	R	174	06	D	.093	L
145	05	C	.093	R	175	07	A	.093	L
146	05	D	.093	R	176	07	B	.093	L
147	06	A	.093	R	177	07	C	.093	L
148	06	B	.093	R	178	07	D	.093	L
149	06	C	.093	R	179	08	A	.093	L
150	06	D	.093	R	180	08	B	.093	L

See footnotes at end of table.

**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**13**

TABLE III. Device numbers and dimensions – Continued.

PIN device number	Housing number <u>1/</u>	Rod assembly type <u>2/</u>	Board thickness <u>3/</u>	R = Right L = Left	PIN device number	Housing number <u>1/</u>	Rod assembly type <u>2/</u>	Board thickness <u>3/</u>	R = Right L = Left
183	03	A	.125	R	204	16	D	.125	L
184	03	B	.125	R	205	20	F	.062	R
185	03	C	.125	R	206	20	F	.062	L
186	03	D	.125	R	207	20	F	.093	R
187	04	A	.125	R	208	20	F	.093	L
188	04	B	.125	R	209	20	F	.125	R
189	04	C	.125	R	210	20	F	.125	L
190	04	D	.125	R	211	14	E	.062	R
191	03	A	.125	L	212	14	E	.062	L
192	03	B	.125	L	213	14	E	.093	R
193	03	C	.125	L	214	14	E	.093	L
194	03	D	.125	L	215	14	E	.125	R
195	04	A	.125	L	216	14	E	.125	L
196	04	B	.125	L	217	14	F	.062	R
197	04	C	.125	L	218	14	F	.062	L
198	04	D	.125	L	219	14	F	.093	R
199	16	D	.062	R	220	14	F	.093	L
200	16	D	.062	L	221	14	F	.125	R
201	16	D	.093	R	222	14	F	.125	L

- 1/ See [table I](#) for housing number details.  
2/ A = Pin drive with aluminum rod.  
 B = Pin drive with steel rod.  
 C = Screwdriver slot drive with steel rod.  
 D = 1/4 Hex head drive with aluminum rod.  
 E = 3/16 hex head drive with aluminum rod.  
 F = 3/16 hex head with steel rod.  
3/ See [table II](#) for board thickness details.

**DEFENSE ELECTRONICS SUPPLY CENTER  
 DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**14**

4. VERIFICATION

4.1 Sampling and inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this drawing where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Conformance inspections.

4.2.1 Inspection of product for delivery. Inspection of product for delivery shall consist of visual and mechanical inspections of interface and physical dimensions (see 3.1), materials (see 3.2), and workmanship (see 3.8). Criteria for defects are listed in 4.2.5.

4.2.2 Optional statement of compliance. The acquiring activity, at its discretion, may accept a statement of compliance in lieu of the contractor performing the inspection of product for delivery (see 6.2.b).

4.2.3 Sampling plan. A sample of parts shall be randomly selected in accordance with table IV, normal sampling. If one or more defects are found, the lot shall be rejected. Criteria for defects are listed in 4.2.5.

4.2.4 Rejected lots. If an inspection lot is rejected after normal sampling inspection, the manufacturer may rework it to correct the defects, or screen out the defective parts and resubmit for inspection. Resubmitted lots shall be inspected by selecting a random sample of parts in accordance with table IV, tightened sampling. If one or more defects are found in this sample, the lot shall be rejected and shall not be supplied to this specification. Resubmitted lots which are acceptable shall be clearly identified as reinspected lots.

4.2.5 Defective characteristics and properties. Dimensional characteristics are considered defective when out of tolerance. Physical and functional properties are considered defective when outside the specified minimum, maximum, or range as applicable. Workmanship characteristics are considered defective when they would be detrimental to the intended use, performance requirements, or environmental survival of the part.

TABLE IV. Sampling plan.

Lot size	Normal	Tightened
2 to 25	3	5
26 to 50	5	6
51 to 90	6	7
91 to 150	7	11
151 to 280	10	13
281 to 500	11	16
501 to 1,200	15	19
1,201 to 3,200	18	23
3,201 to 10,000	22	29
10,001 to 35,001	29	35
35,001 and over	29	40

<b>DEFENSE ELECTRONICS SUPPLY CENTER</b> <b>DAYTON, OH 45444</b>	SIZE <b>A</b>	CAGE CODE <b>14933</b>	DWG NO. <b>85033</b>
		REV <b>H</b>	PAGE <b>15</b>

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's system command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1 Intended use. Card holders conforming to this drawing are intended for use when performance specifications do not exist and qualified military devices that will perform the required function are not available for OEM application.

6.2 Ordering data. The acquisition requirements should specify the following:

- a. Complete PIN (see 1.2).
- b. Requirements for delivery of one copy of the conformance inspection data or certificate of compliance that parts have passed conformance inspection with each shipment of parts by the manufacturer.
- c. Requirements for packaging and packing.

6.3 Users of record. Coordination of this document for future revisions are coordinated only with the suggested sources of supply and the users of record of this document. Requests to be added as a recorded user of this drawing should be in writing to: DLA Land and Maritime, ATTN: VAC, Post Office Box 3990, Columbus, OH 43218-3990 or by electronic mail at "5998.Documents@dla.mil" or by facsimile (614) 693-1642 or DSN 850-6939.

6.4 Patent notice. The items covered by this drawing are covered by patent 3,975,805, expiration date, August 24, 1993, and 4,502,601, expiration date March 5, 2002. The Government does not possess a royalty-free license under these patents for the benefit of manufacturers of the item, either for the Government or for the use in equipment to be delivered to the Government.

6.5 Supersession data. See table V.

TABLE V. Supersession information. 1/

Superseding PIN	Superseded part number per 85033D, 21 July 1989 2/	Superseded part number per 85033C, 6 August 1987	Superseded part number per 85033, 1 July 1985 85033A, 6 February 1986 85033B, 23 March 1987
85033-AC***	85033-AC***	85033-***	85033-***
85033-AC***P	85033-AC***P	85033-***P	

1/ The asterisk "\*\*\*" are used to denote the dash number or device numbers which did not change.

2/ Prior to 85033D of 21 July 1989, all card holders housings were available with only chemical film (PIN option "C") in accordance with MIL-DTL-5541.

6.6 Approved sources of supply. Approved sources of supply are listed herein. Additional sources will be added as they become available. The vendors listed herein have agreed with this drawing and have submitted a certificate of compliance (see 3.4 herein) to DLA Land and Maritime, ATTN: VAC, P.O. Box 3990, Columbus, OH 43218-3990.

<b>DEFENSE ELECTRONICS SUPPLY CENTER</b> <b>DAYTON, OH 45444</b>	SIZE <b>A</b>	CAGE CODE <b>14933</b>	DWG NO. <b>85033</b>
		REV <b>H</b>	PAGE <b>16</b>

DESC drawing PIN device number 85033- (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
001	Z*S@11-062-09R-#BN	98978	IERC (International Electronic Research Corporation) 413 North Moss Street Burbank, CA 91502-1727  Tel: (818) 842-7277 Fax: (818) 848-8872  E-mail: <a href="mailto:sales@ctscorp.com">sales@ctscorp.com</a> URL: <a href="http://www.ctscorp.com">www.ctscorp.com</a>  
002	Z*S@21-062-09R-#PN		
003	Z*S@31-062-09R-#PN		
004	Z*S@41-062-09R-#BN		
005	Z*S@11-093-09R-#BN		
006	Z*S@21-093-09R-#PN		
007	Z*S@31-093-09R-#PN		
008	Z*S@41-093-09R-#BN		
009	Z*S@11-062-09L-#BN		
010	Z*S@21-062-09L-#PN		
011	Z*S@31-062-09L-#PN		
012	Z*S@41-062-09L-#BN		
013	Z*S@11-093-09L-#BN		
014	Z*S@21-093-09L-#PN		
015	Z*S@31-093-09L-#PN		
016	Z*S@41-093-09L-#BN		
017	Z*S@11-062-12R-#BN		
018	Z*S@21-062-12R-#PN		
019	Z*S@41-062-12R-#BN		
020	Z*S@11-093-12R-#BN		
021	Z*S@21-093-12R-#PN		
022	Z*S@41-093-12R-#BN		
023	Z*S@11-062-12L-#BN		
024	Z*S@21-062-12L-#PN		
025	Z*S@41-062-12L-#BN		
026	Z*S@11-093-12L-#BN		
027	Z*S@21-093-12L-#PN		
028	Z*S@41-093-12L-#BN		
029	Z*S@11-125-05R-#BN		
030	Z*S@21-125-05R-#PN		
031	Z*S@31-125-05R-#PN		
032	Z*S@41-125-05R-#BN		
033	Z*S@11-125-06R-#BN		
034	Z*S@21-125-06R-#PN		
035	Z*S@31-125-06R-#PN		
036	Z*S@41-125-06R-#BN		
037	Z*S@11-125-07R-#BN		
038	Z*S@21-125-07R-#PN		
039	Z*S@31-125-07R-#PN		
040	Z*S@41-125-07R-#BN		

**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**17**

DESC drawing PIN device number 85033- (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
041	Z*S@11-125-08R-#BN	98978	IERC (International Electronic Research Corporation) 413 North Moss Street Burbank, CA 91502-1727  Tel: (818) 842-7277 Fax: (818) 848-8872  E-mail: sales@ctscorp.com URL: <a href="http://www.ctscorp.com">www.ctscorp.com</a>
042	Z*S@21-125-08R-#PN		
043	Z*S@31-125-08R-#PN		
044	Z*S@41-125-08R-#BN		
045	Z*S@11-125-09R-#BN		
046	Z*S@21-125-09R-#PN		
047	Z*S@31-125-09R-#PN		
048	Z*S@41-125-09R-#BN		
049	Z*S@11-125-10R-#BN		
050	Z*S@21-125-10R-#PN		
051	Z*S@41-125-10R-#BN		
052	Z*S@11-125-11R-#BN		
053	Z*S@21-125-11R-#PN		
054	Z*S@41-125-11R-#BN		
055	Z*S@11-125-12R-#BN		
056	Z*S@21-125-12R-#PN		
057	Z*S@41-125-12R-#BN		
058	Z*S@11-125-05L-#BN		
059	Z*S@21-125-05L-#PN		
060	Z*S@31-125-05L-#PN		
061	Z*S@41-125-05L-#BN		
062	Z*S@11-125-06L-#BN		
063	Z*S@21-125-06L-#PN		
064	Z*S@31-125-06L-#PN		
065	Z*S@41-125-06L-#BN		
066	Z*S@11-125-07L-#BN		
067	Z*S@21-125-07L-#PN		
068	Z*S@31-125-07L-#PN		
069	Z*S@41-125-07L-#BN		
070	Z*S@11-125-08L-#BN		
071	Z*S@21-125-08L-#PN		
072	Z*S@31-125-08L-#PN		
073	Z*S@41-125-08L-#BN		
074	Z*S@11-125-09L-#BN		
075	Z*S@21-125-09L-#PN		
076	Z*S@31-125-09L-#PN		
077	Z*S@41-125-09L-#BN		
078	Z*S@11-125-10L-#BN		
079	Z*S@21-125-10L-#PN		
080	Z*S@41-125-10L-#BN		



**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**18**

DESC drawing PIN device number 85033- (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
081	Z*S@11-125-11L-#BN	98978	IERC (International Electronic Research Corporation) 413 North Moss Street Burbank, CA 91502-1727  Tel: (818) 842-7277 Fax: (818) 848-8872  E-mail: sales@ctscorp.com URL: <a href="http://www.ctscorp.com">www.ctscorp.com</a>
082	Z*S@21-125-11L-#PN		
083	Z*S@41-125-11L-#BN		
084	Z*S@11-125-12L-#BN		
085	Z*S@21-125-12L-#PN		
086	Z*S@41-125-12L-#BN		
087	Z*S@11-062-03R-#BN		
088	Z*S@21-062-03R-#PN		
089	Z*S@31-062-03R-#PN		
090	Z*S@41-062-03R-#BN		
091	Z*S@11-062-04R-#BN		
092	Z*S@21-062-04R-#PN		
093	Z*S@31-062-04R-#PN		
094	Z*S@41-062-04R-#BN		
095	Z*S@11-062-05R-#BN		
096	Z*S@21-062-05R-#PN		
097	Z*S@31-062-05R-#PN		
098	Z*S@41-062-05R-#BN		
099	Z*S@11-062-06R-#BN		
100	Z*S@21-062-06R-#PN		
101	Z*S@31-062-06R-#PN		
102	Z*S@41-062-06R-#BN		
103	Z*S@11-062-07R-#BN		
104	Z*S@21-062-07R-#PN		
105	Z*S@31-062-07R-#PN		
106	Z*S@41-062-07R-#BN		
107	Z*S@11-062-08R-#BN		
108	Z*S@21-062-08R-#PN		
109	Z*S@31-062-08R-#PN		
110	Z*S@41-062-08R-#BN		
111	Z*S@11-062-03L-#BN		
112	Z*S@21-062-03L-#PN		
113	Z*S@31-062-03L-#PN		
114	Z*S@41-062-03L-#BN		
115	Z*S@11-062-04L-#BN		
116	Z*S@21-062-04L-#PN		
117	Z*S@31-062-04L-#PN		
118	Z*S@41-062-04L-#BN		
119	Z*S@11-062-05L-#BN		
120	Z*S@21-062-05L-#PN		



**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**19**

DESC drawing PIN device number 85033- (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
121	Z*S@31-062-05L-#PN	98978	IERC (International Electronic Research Corporation) 413 North Moss Street Burbank, CA 91502-1727  Tel: (818) 842-7277 Fax: (818) 848-8872  E-mail: sales@ctscorp.com URL: <a href="http://www.ctscorp.com">www.ctscorp.com</a>
122	Z*S@41-062-05L-#BN		
123	Z*S@11-062-06L-#BN		
124	Z*S@21-062-06L-#PN		
125	Z*S@31-062-06L-#PN		
126	Z*S@41-062-06L-#BN		
127	Z*S@11-062-07L-#BN		
128	Z*S@21-062-07L-#PN		
129	Z*S@31-062-07L-#PN		
130	Z*S@41-062-07L-#BN		
131	Z*S@11-062V08L-#BN		
132	Z*S@21-062-08L-#PN		
133	Z*S@31-062-08L-#PN		
134	Z*S@41-062-08L-#BN		
135	Z*S@11-093-03R-#BN		
136	Z*S@21-093-03R-#PN		
137	Z*S@31-093-03R-#PN		
138	Z*S@41-093-03R-#BN		
139	Z*S@11-093-04R-#BN		
140	Z*S@21-093-04R-#PN		
141	Z*S@31-093-04R-#PN		
142	Z*S@41-093-04R-#BN		
143	Z*S@11-093-05R-#BN		
144	Z*S@21-093-05R-#PN		
145	Z*S@31-093-05R-#PN		
146	Z*S@41-093-05R-#BN		
147	Z*S@11-093-06R-#BN		
148	Z*S@21-093-06R-#PN		
149	Z*S@31-093-06R-#PN		
150	Z*S@41-093-06R-#BN		
151	Z*S@11-093-07R-#BN		
152	Z*S@21-093-07R-#PN		
153	Z*S@31-093-07R-#PN		
154	Z*S@41-093-07R-#BN		
155	Z*S@11-093-08R-#BN		
156	Z*S@21-093-08R-#PN		
157	Z*S@31-093-08R-#PN		
158	Z*S@41-093-08R-#BN		



**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**20**

DESC drawing PIN device number 85033- (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
159	Z*S@11-093-03L-#BN	98978	IERC (International Electronic Research Corporation) 413 North Moss Street Burbank, CA 91502-1727  Tel: (818) 842-7277 Fax: (818) 848-8872  E-mail: sales@ctscorp.com URL: <a href="http://www.ctscorp.com">www.ctscorp.com</a>
160	Z*S@21-093-03L-#PN		
161	Z*S@31-093-03L-#PN		
162	Z*S@41-093-03L-#BN		
163	Z*S@11-093-04L-#BN		
164	Z*S@21-093-04L-#PN		
165	Z*S@31-093-04L-#PN		
166	Z*S@41-093-04L-#BN		
167	Z*S@11-093-05L-#BN		
168	Z*S@21-093-05L-#PN		
169	Z*S@31-093-05L-#PN		
170	Z*S@41-093-05L-#BN		
171	Z*S@11-093-06L-#BN		
172	Z*S@21-093-06L-#PN		
173	Z*S@31-093-06L-#PN		
174	Z*S@41-093-06L-#BN		
175	Z*S@11-093-07L-#BN		
176	Z*S@21-093-07L-#PN		
177	Z*S@31-093-07L-#PN		
178	Z*S@41-093-07L-#BN		
179	Z*S@11-093-08L-#BN		
180	Z*S@21-093-08L-#PN		
181	Z*S@31-093-08L-#PN		
182	Z*S@41-093-08L-#BN		
183	Z*S@11-125-03R-#BN		
184	Z*S@21-125-03R-#PN		
185	Z*S@31-125-03R-#PN		
186	Z*S@41-125-03R-#BN		
187	Z*S@11-125-04R-#BN		
188	Z*S@21-125-04R-#PN		
189	Z*S@31-125-04R-#PN		
190	Z*S@41-125-04R-#BN		
191	Z*S@11-125-03L-#BN		
192	Z*S@21-125-03L-#PN		
193	Z*S@31-125-03L-#PN		
194	Z*S@41-125-03L-#BN		
195	Z*S@11-125-04L-#BN		
196	Z*S@21-125-04L-#PN		
197	Z*S@31-125-04L-#PN		
198	Z*S@21-125-04L-#BN		



**DEFENSE ELECTRONICS SUPPLY CENTER**  
**DAYTON, OH 45444**

SIZE

**A**

CAGE CODE

**14933**

DWG NO.

**85033**

REV

**H**

PAGE

**21**

DESC drawing PIN device number 85033- (1) (2)	Vendor similar designation or type number (3)	Vendor CAGE	Vendor name and address
199	Z*S@41-062-16R-#BN	98978	IERC (International Electronic Research Corporation) 413 North Moss Street Burbank, CA 91502-1727  Tel: (818) 842-7277 Fax: (818) 848-8872  E-mail: sales@ctscorp.com URL: <a href="http://www.ctscorp.com">www.ctscorp.com</a>
200	Z*S@41-062-16L-#BN		
201	Z*S@41-093-16R-#BN		
202	Z*S@41-093-16L-#BN		
203	Z*S@41-125-16R-#BN		
204	Z*S@41-125-16L-#BN		
205	Z*S@71-062-20R-#PN		
206	Z*S@71-062-20L-#PN		
207	Z*S@71-093-20R-#PN		
208	Z*S@71-093-20L-#PN		
209	Z*S@71-125-20R-#PN		
210	Z*S@71-125-20L-#PN		
211	Z*S@61-062-14R-#PN		
212	Z*S@61-062-14L-#PN		
213	Z*S@61-093-14R-#PN		
214	Z*S@61-093-14L-#PN		
215	Z*S@61-125-14R-#PN		
216	Z*S@61-125-14L-#PN		
217	Z*S@71-062-14R-#PN		
218	Z*S@71-062-14L-#PN		
219	Z*S@71-093-14R-#PN		
220	Z*S@71-093-14L-#PN		
221	Z*S@71-125-14R-#PN		
222	Z*S@71-125-14L-#PN		



- (1) Do not use vendor PIN's for acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.
- (2) Abbreviated PIN's are shown for convenience. See 1.2 for complete PIN format.
- (3) CAGE 98978 PIN variations:
- Version: Second digit \* will be A for assembled version or K for kit version (see 3.1.5).
  - Optional housing index pins: Fourth digit @ will be 1 without index pins or 2 with index pins (see 3.4.1).
  - Housing finish: Thirteenth digit # will be B for black anodize, C for chemical film finish, or U for no finish (see 3.3.1).
  - Rod assembly types E and F, figure 6, the B following the # digit will be A for aluminum hex head indexing painted yellow and will be S for stainless steel.

<b>DEFENSE ELECTRONICS SUPPLY CENTER</b> <b>DAYTON, OH 45444</b>	SIZE <b>A</b>	CAGE CODE <b>14933</b>	DWG NO. <b>85033</b>
		REV <b>H</b>	PAGE <b>22</b>