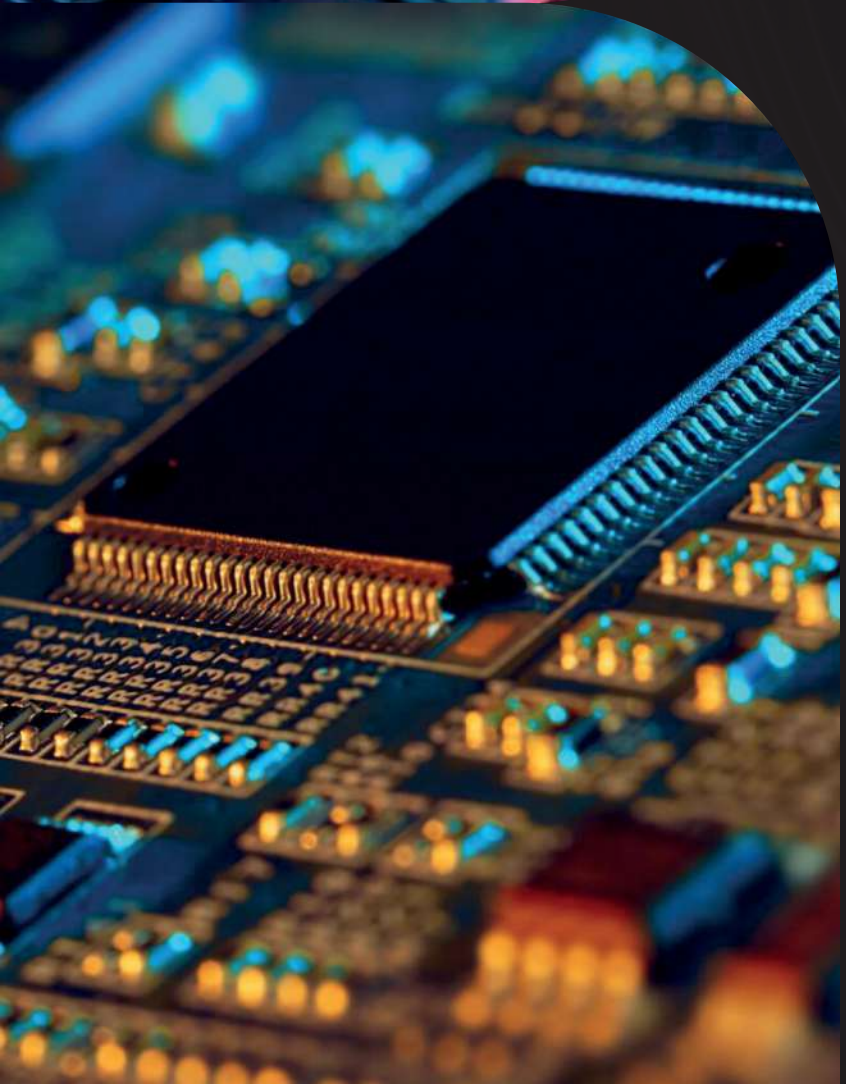
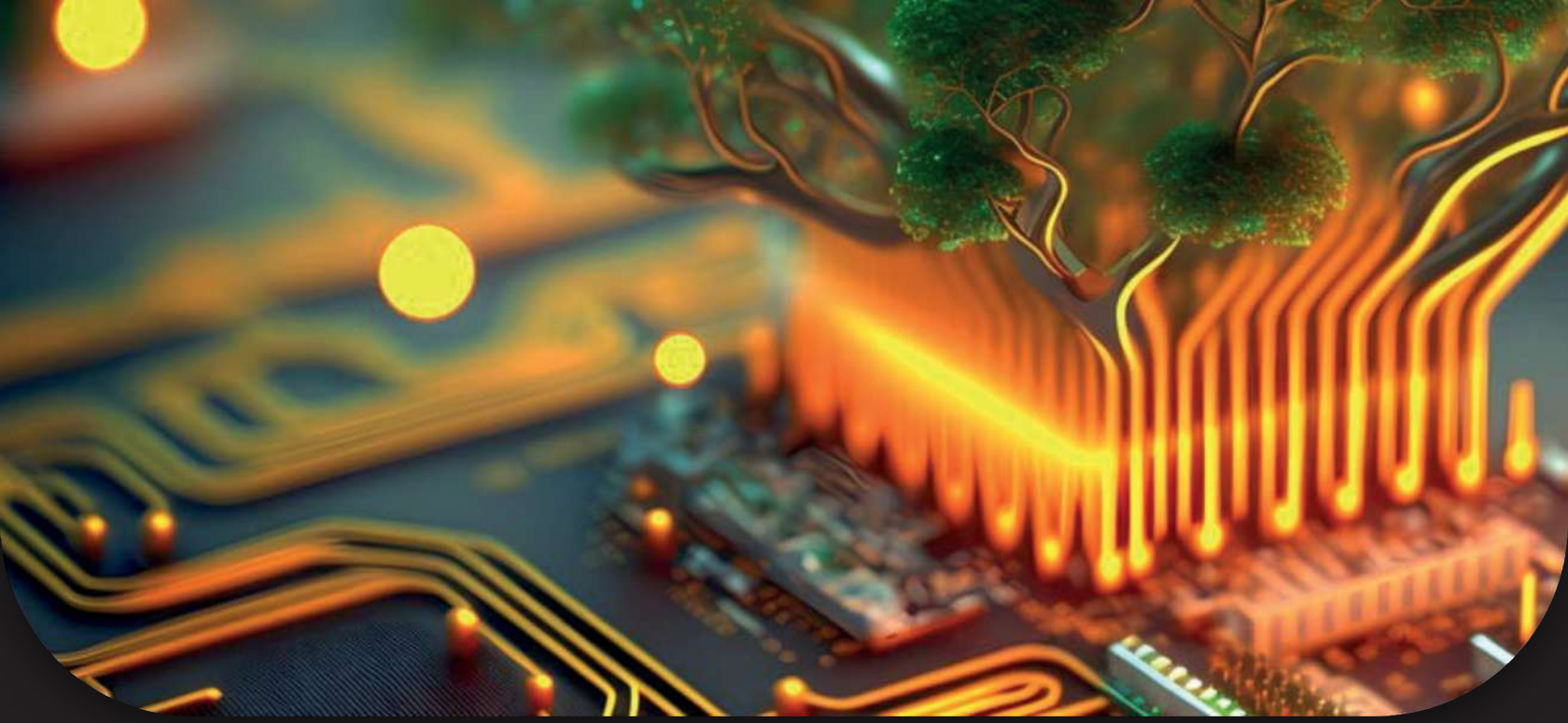


ETS ALLIANCE
ELECTRONIC, THERMAL AND ELECTROMECHANICAL TECHNOLOGIES

PRODUCTS
CATALOG

Thermal Management and
Electro Mechanical Solutions



ETC Alliance is a design and provider of electronic packaging solutions. We specialize in highly engineered solutions in a variety and broad range of industries and market segments.

With over 35 years of experience in electronic technology, ETC Alliance has built connections to a myriad of electronic high tech projects. From Military to customer, we work top provide the best solutions at the best value.

If you are working on integrating Power, Interconnect, or signal integrity, we can help with your design and fullfillment.

Some of our areas of strength in providing solutions:

- Electronic hardware and packaging
- Cable Assemblies
- PCB and Flex - Rigid Flex
- Card Guidnes (CTS ZIF technology)
- Precision Machining
- Custom Molding
- Stamped and Formed metal custom products
- Aerosmith and Tool design
- Bent metal enclosures
- RF cable high frequency connectors and cable assemblies
- Micro and Nano cable harness

ABOUT
ETS ALLIANCE

ETS Alliance was formed in 1999, as a bridge provider for engineering and prototype development. We determined that as a Manufacturer's Representative, many of our supplier were resource challenged and that often times our customers needed additional support to get their proof of design and development engineering moving forward.

For first articles, 3D proof of concept, prototype and production... the challenges is in the process to secure integrity of design. Many component suppliers have their resources tied up in manufacturing processes, and cannot afford to divert engineering resources to their customers. This is where ETS Alliance will step in and deliver the bridge engineering, and in many cases, the connection to our vast network of manufacturing partners.

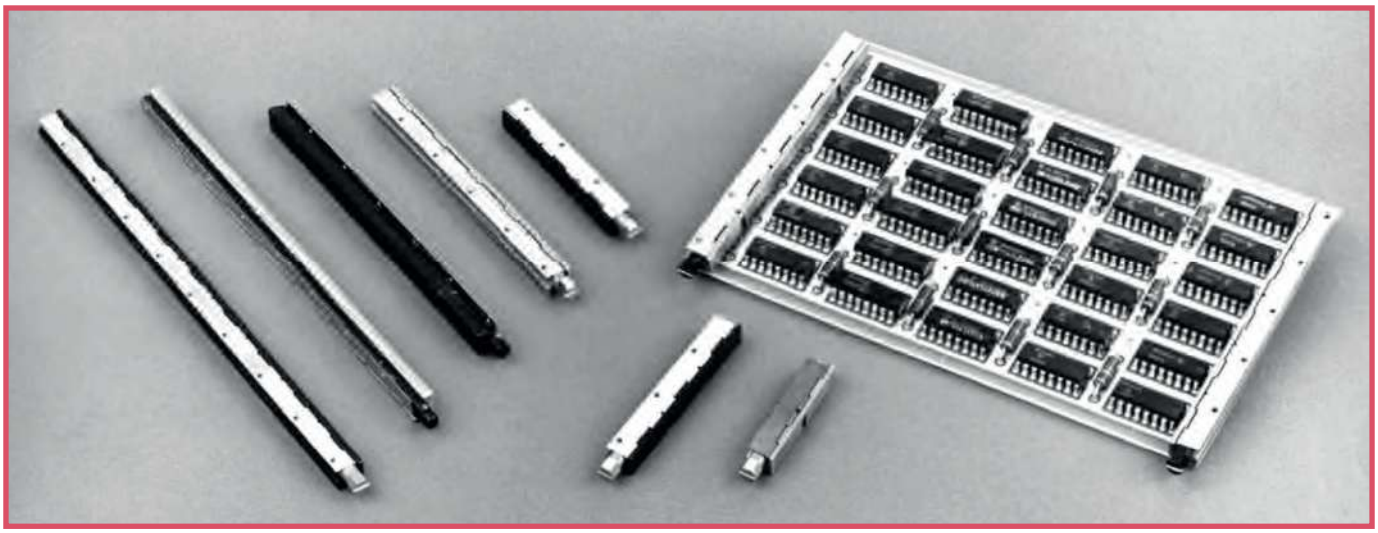
NEWS AND ANNOUNCEMENTS:

In addition, ETS Alliance is pleased to announce the recent licensing agreement that we have formed with CTS, to support their ZIF card guide product technology.

ZIF III CIRCUIT BOARD RETAINERS

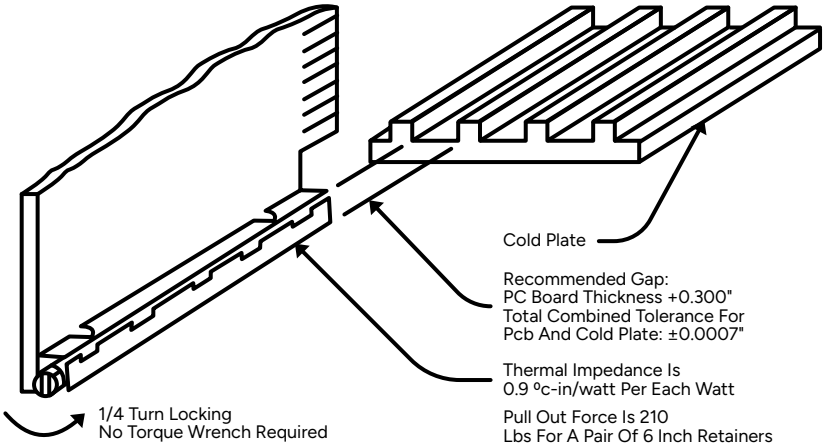
GENERAL DESCRIPTION

ZIF III retainers are the latest in the state-of-theart PC board mountable retainers. Unlike other designs on the market, CTS's ZIF III features a quick, quarter-turn locking mechanism that provides for a postive and fast assembly. Its unique locking design produces a uniform pressure distribution along the PCB edge for the absolute best heat transfer and resistance to extreme shock and vibration. It will not warp your circuit boards unlike some others available in the market. If you have high density PC board mounting applications for military, space, medical, industrial controls, computers and communications, you need ZIF III Circuit Board Retainers.



DESIGN FEATURE

- Pc Board Mountable
- Positive 1/4 Turn Locking
- Field Maintainable
- Quick And Easy Installation
- Superior Mechanical Retentiion
- Thermally Efficient, 0.9º c-inch/watt



PC BOARD WITH ZIF III RETAINER

ORDERING INFORMATIONS - ZIF III

Z 3 A 3 7 S B - 3 - B N L

ZIF II DESIGNATION

TOP ASSEMBLY OPTION
A = Assembly B = Kit

LENGTH OF HOUSING ASSEMBLY
15 = 1.50 Inch
22 = 2.25 Inch
30 = 3.00 Inch
37 = 3.75 Inch
45 = 4.50 Inch
52 = 5.25 Inch
60 = 6.00 Inch
67 = 6.75 Inch
75 = 7.50 Inch
Consult factory for custom or longer lengths.

TOP ASSEMBLY OPTION
S = Screw Mounting (2-56)
B = No Holes
I = 2-56 Helical Insert (Locking)
M = Screw Mounting (M3x.05)

HOUSING FINISH
B = Black Anodize U = Unplated R = Chemical Film

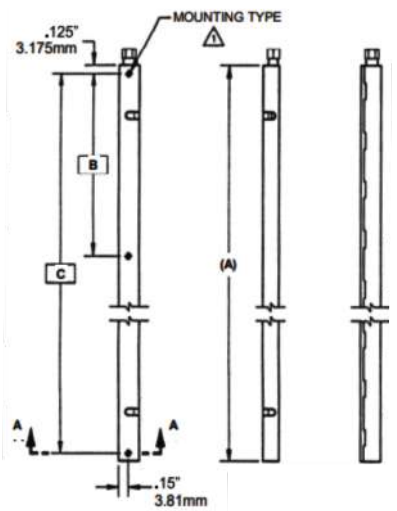
R = Right Hand Part
L = Left Hand Part

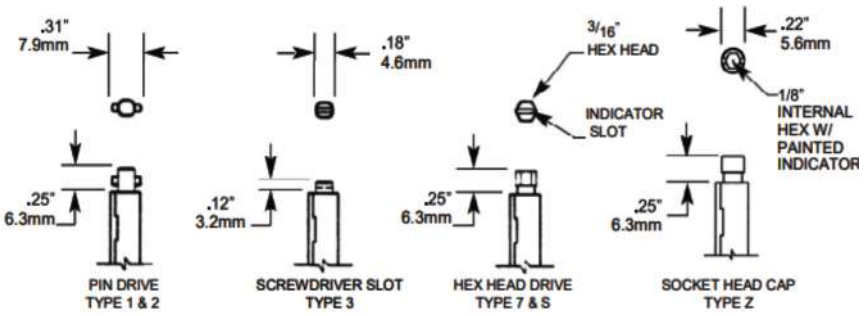
SPRING FINISH
U = Unplated
B = Black Cadmium
N= Nickel

SPRING MATERIAL
B = Be Cu

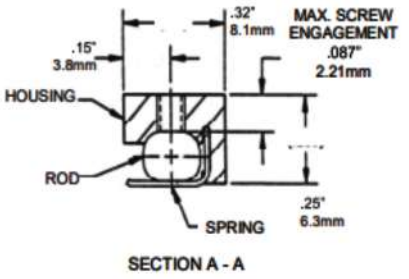
ROD TYPE
1 = Pin Drive, Aluminium Rod 4.5" Max
2 = Pin Drive, Stainless Steel
3 = Slot Drive, Stainless Steel 3.75" Max
7 = 3/16 Hex Drive, Stainless Steel
S = Type 7 With Painted Indicator
Z = 1/8" Socket Head Cap, Stainless Rod w/ Painted Indicator

SPESIFICATIONS





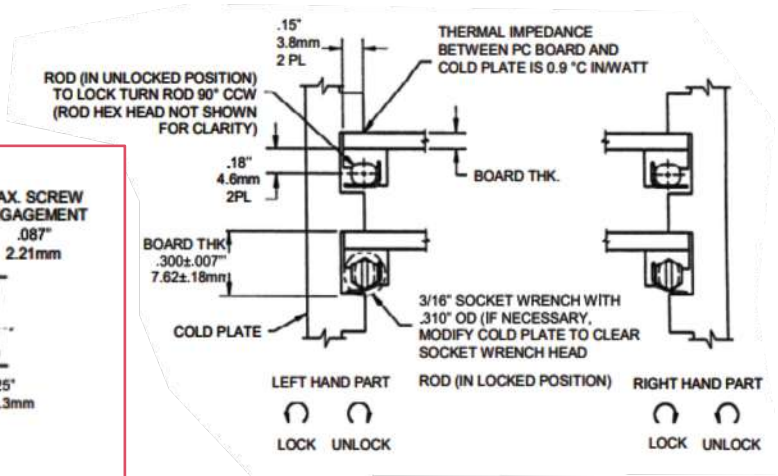
A DIM	B DIM BSC	C DIM BSC
1.500" 38.10mm	- -	1.250" 31.75mm
2.250" 57.15mm	- -	2.000" 50.80mm
3.000" 76.20mm	- -	2.750" 69.85mm
3.750" 96.25mm	- -	3.50" 88.90mm
4.500" 114.30mm	- -	4.250" 107.95mm
5.250" 133.35mm	- -	5.000" 127.00mm
6.000" 152.40mm	2.875" 7.03mm	5.750" 146.10mm
6.750" 171.45mm	3.250" 82.55mm	6.500" 165.10mm
7.500" 190.50mm	3.625" 92.06mm	7.250" 184.15mm



Total Weight Per Assembly:
- Aluminium Rod 3.42 Gram/In
- Stainless Steel 5.23 Gram/In

All dimensions are in inches unless otherwise noted.

ROD STYLES



Dimensions are for reference use only.
Contact CTS for dimensions with tolerances or standard part drawings.

STANDARD ZIF CIRCUIT BOARD RETAINERS

DESIGN FEATURE

- Quick locking action
- Uniform heat transfer
- Complete interchangeability
- Visual indication of lock/unlock

TECHNICAL ASSISTANCE-CUSTOM DESIGN

Our engineering staff has extensive experience in the packaging of ZIF retainers. Modification of standard housings, cams & spring configurations for special design applications is frequently possible. We welcome the oppurtunity of providing you with the assistance needed to solve all of your thermal management problems.

SPECIFICATIONS

The ZIF cam detent design gives added assurance that a PCB will remain securely locked in position even under extreme vibration and shock levels. Detent action occurs during the final 15 degrees of cam rotation and virtually eliminates any possibility of the cam unclocking under environmental stress.

Improving the thermal conduc tivity of circuit board retainers enhances system performance by increasing the reliability of electronic components and circuit modules. Extensive testing of ZIF retainers in the CTS Engineering Test Laboratory demonstrates that they have the best thermal performance of any circuit board retainer available.

GENERAL DESCRIPTION

The ZIF retainer is a totally self-contained, precision assembly that provides a highly effective thermal interface betwen the circuit board and coldwall. Board lengths between 1-1/2" and 12" can be accomodated.

A ZIF retainer consists of:

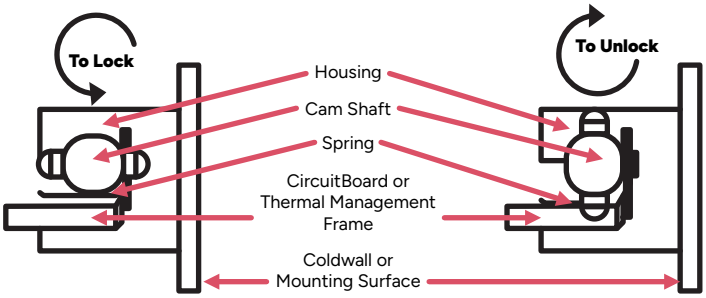
(1) an aluminium housing

(2) a rod/cam assembly constructed from an aluminium or stainless steel double flat rod extrusion. The ZIF rod assembly is driven by one of three options: pin, hex-head or screwdriver slot

(3) a beryllium copper spring

ZIF retainers are mounted to any flat metal surface (coldwall). The standard configuration is attached with 4-40 hardware. However, the retainer housing can be supplied with tapped holes for M3x.5 metric hardware, or left undrilled with only index pins for vacuum brazing, dip brazing or epoxy bonding.

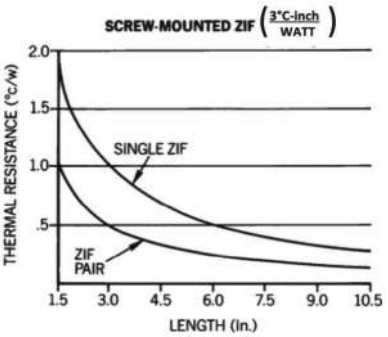
ZIF OPERATION

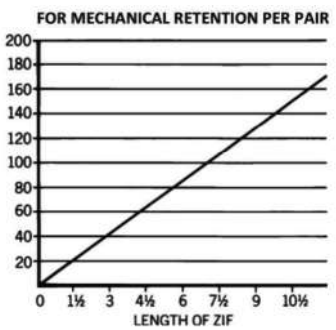


Unlocked, Zero-Insertion Force (ZIF) Position

Locked, Maximum Clamping Force Position

Clamping pressure is not only essential to heat transfer, but also a critical requirement for retention of PCBs under severe shock and vibration. ZIF retainers have beed subjected to the most extreme test conditions specified in ML-STD-810C. Nominal retention force for a circuit board held captive by a pair of ZIF retainers (I/O connector excluded) is show in the graph.





ORDERING INFORMATIONS - STANDARD ZIF

Z A S 1 1 1 - 062 - 15 R* - B B U

ZIF DESIGNATION

ASSEMBLY OPTION
A = Assembly K = Kit

MOUNTING METHOD
B = Brazed M = Metric Screw (M3x0.5)
S = Screw 4-40

HOUSING SERIES
1 = Without Pins 2 = With .062x.040 Extended Aluminium Index Pins

ROD ASSEMBLY
1 = Pin Drive, Aluminium Rod (6" Max.)
2 = Pin Drive, Steel Rod
3 = Slot Drive, Steel Rod (4.5" Max.)
4 = 1/4 Hex Drive, Aluminium Rod
7 = 3/16 Hex Drive, Steel Rod
① S = 3/16 Hex Drive, Steel Rod
① Z = 1/8" Socket Head Cap, Steel Rod

SPRING SERIES
1 = Current Design

BOARD THICKNESS (±.005 Max.)
.031" .050" .062" .084" .093" .125"

SPRING PLATING
U = Unplated N= Nickel
B = Black Cadmium

ROD PLATING
B = Black Anod. Aluminium Rods
P = Passivated, Steel Rods

Housing Plating
B = Black Anodize R = Chem. Film
U = Unplated

R = Right Hand Part
L = Left Hand Part

Assembly Length in .5" Increments x 2
Ex: 7.5" = 15

*All assembled ZIFs must have a left or right designation.
Any kit with a 1/4 inch hexhead drive must have a left or right designation.

① Visual identification slot painted yellow.

ROD STYLES

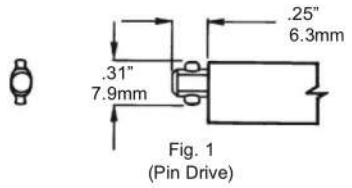


Fig. 1
(Pin Drive)

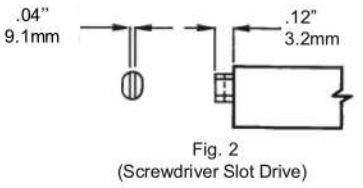


Fig. 2
(Screwdriver Slot Drive)

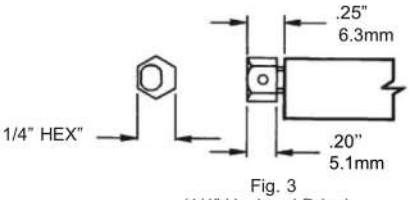


Fig. 3
(1/4" Hexhead Drive)

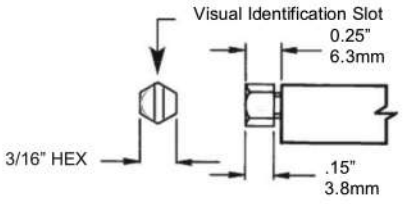
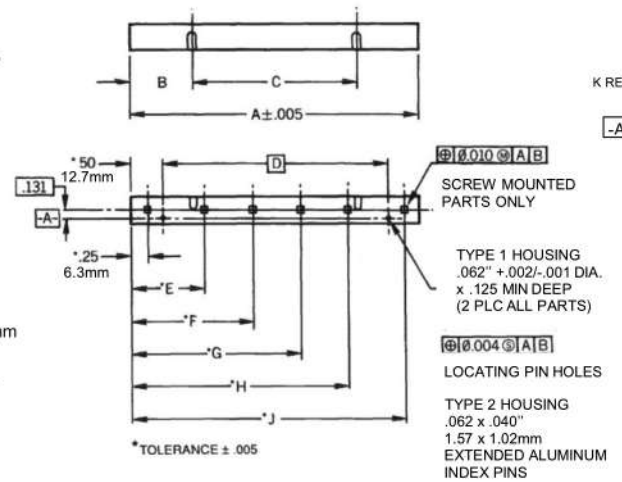
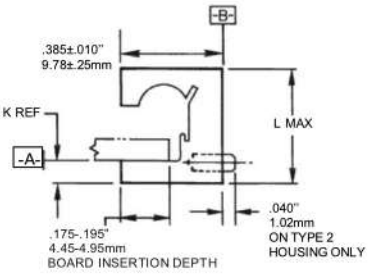


Fig. 4
(3/16" Hexhead Drive)





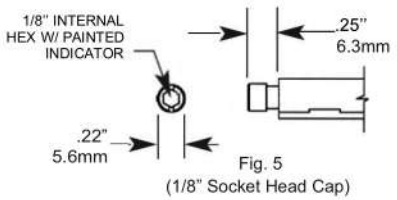


Fig. 5
(1/8" Socket Head Cap)

ROD TYPE			
DESIG.	FIG. NO.	MATERIAL	MAX. SPRING LENGTH
ZRA 1	1	aluminium	6 inches
ZRA 2	1	steel	10.5 inches
ZRA 3	2	steel	4.5 inches
ZRA 4	3	aluminium	10.5 inches
ZRA 7	4	steel	10.5 inches
①ZRAS	4	steel	10.5 inches

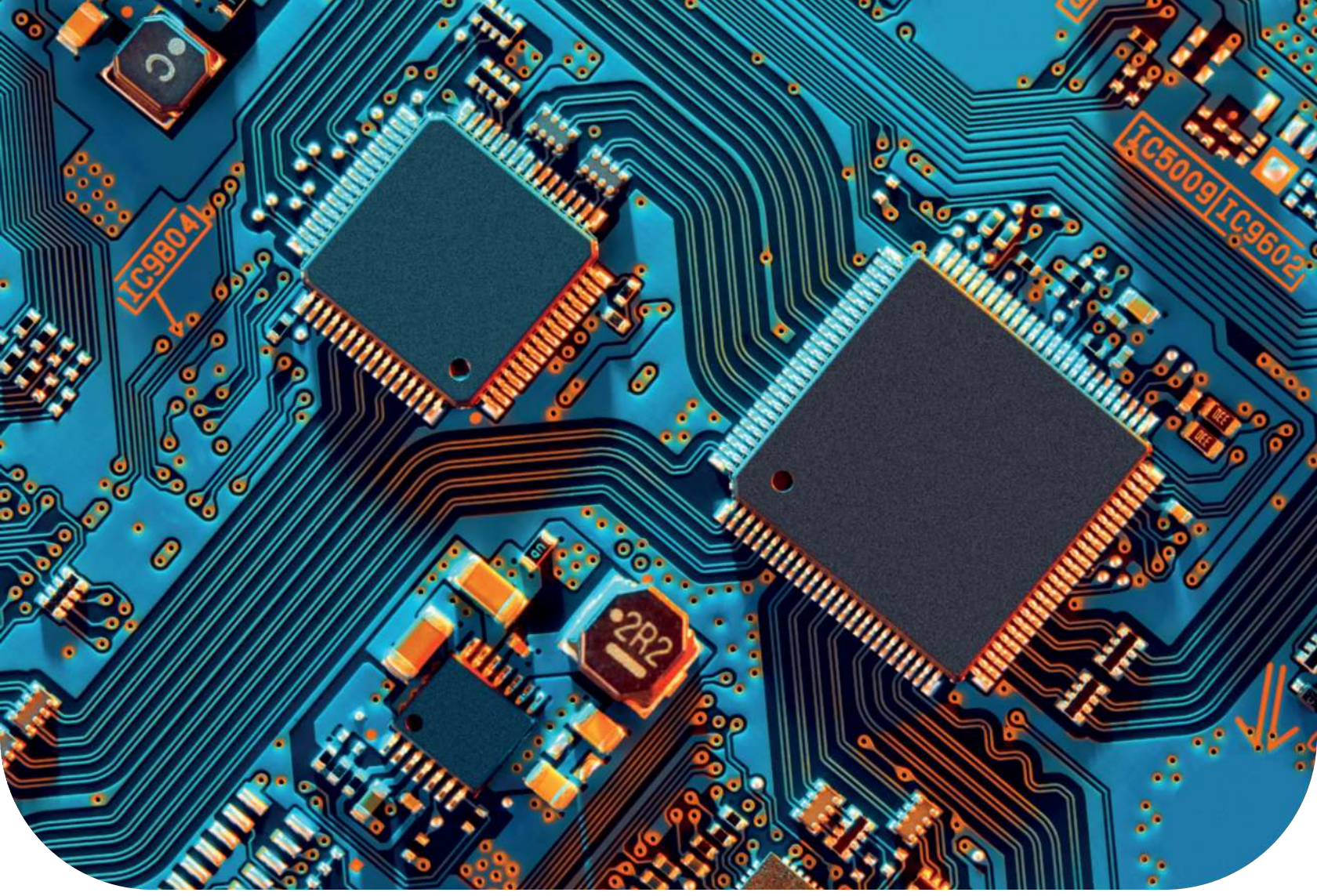
ZIF circuit board retainers are available in several standard configurations. When ordering standard ZIF assemblies, kits or individual components, please refer to the ZIF identification number guide shown above. Custom ZIF retainers will be assigned special part number identification.

BOARD THICK	K REF	L MAX
0.31" .79mm	0.94" 2.39mm	.400" 10.16mm
.050" 1.27mm	0.75" 1.90mm	.400" 10.16mm
0.62 1.57mm	.063" 1.60mm	.400" 10.16mm
0.84" 2.13mm	0.63" 1.60mm	.422" 10.72mm
0.93" 2.36mm	.079" 2.01mm	.447" 11.34mm
.125" 3.17mm	.082" 2.08mm	.478" 12.11mm

ZIF HOUSING DIMENSIONS

LENGTH DESIGNATION	SPRING LENGTH	A ±.005	B	C	D	4-40 MOUNTING HOLES					NO. OF MNTG.HOLES
						E	F	G	H	J	
03	1.5	1.50	.75	-	.50	1.25	-	-	-	-	2
04	1.5	2.00	1.00	-	1.00	1.75	-	-	-	-	2
05	1.5	2.50	1.25	-	1.50	2.25	-	-	-	-	2
06	3	3.00	.75	1.5	2.00	1.50	2.75	-	-	-	3
07	3	3.50	1.00	1.5	2.50	1.75	3.25	-	-	-	3
08	3	4.00	1.25	1.5	3.00	2.00	3.75	-	-	-	3
09	4.5	4.50	0.75	3.0	3.50	2.25	4.25	-	-	-	3
10	4.5	5.00	1.00	3.0	4.00	1.75	3.25	4.75	-	-	4
11	4.5	5.50	1.25	3.0	4.50	2.00	3.50	5.25	-	-	4
12	6	6.00	0.75	4.5	5.00	2.00	4.00	5.75	-	-	4
13	6	6.50	1.00	4.5	5.50	2.25	4.25	6.25	-	-	4
14	6	7.00	1.25	4.5	6.00	2.50	4.50	6.75	-	-	4
15	7.5	7.50	2.25	3.0	6.50	2.00	3.75	5.50	7.25	-	5
16	7.5	8.00	2.50	3.0	7.00	2.00	4.00	6.00	7.25	-	5
17	7.5	8.50	2.75	3.0	7.50	2.25	4.25	6.25	8.25	-	5
18	9	9.00	3.75	1.5	8.00	2.50	4.50	6.50	8.75	-	5
19	9	9.50	4.00	1.5	8.50	2.00	3.75	5.75	7.50	9.25	6
20	9	10.00	4.25	1.5	9.00	2.00	4.00	6.00	8.00	9.75	6
21	10.5	10.00	5.25	-	9.50	2.25	4.25	6.25	8.25	10.25	6

Cage code : 9RPB3 patents held by CTS Corp, ETS Alliance licensee of ZIF products 2023 . contact us for detail specifications and confirmation of layout specific parameters and any customization requests.



ETS ALLIANCE

ELECTRONIC, THERMAL AND ELECTROMECHANICAL TECHNOLOGIES

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