

# BATTERY CONTACTS

Designers' Choice



## "A" • "AA" • "AAA" • "N" SIZE PC BUTTON & SPRING CONTACTS



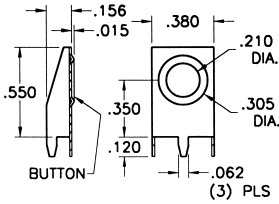
MATERIAL: Frame: .015 Steel, Tin Plate

- Ideal contacts for "A" • "AA" • "AAA" • "N" size batteries.
- Space saving design installs directly onto the PC board
- Ideal for self-contained battery compartments
- Contacts available for .062 and .093 thick PC boards
- Reliable spring and/or button assures low contact resistance

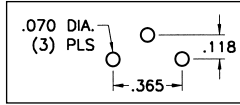


MATERIAL: Frame: .015 Steel, Tin Plate  
Uses Cat. No. 211 Spring Contact

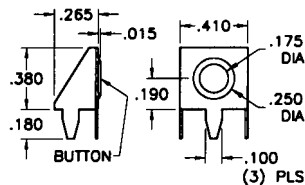
### (+) Positive Button



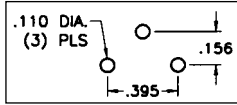
Mounting Detail



CAT. NO. 595 - For "A"

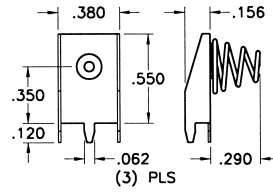


Mounting Detail

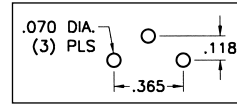


CAT. NO. 637 - For "AA" • "AAA" • "N"

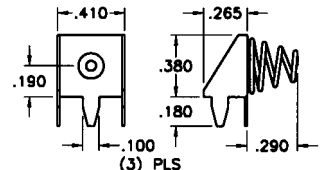
### (-) Negative Spring



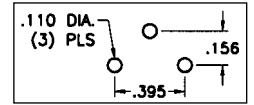
Mounting Detail



CAT. NO. 628 - For "A"



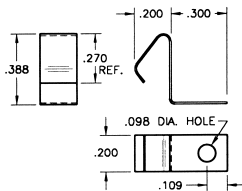
Mounting Detail



CAT. NO. 629 - For "AA" • "AAA" • "N"

## SURFACE MOUNT BATTERY CONTACTS

### For "AAA" • "AAAA"

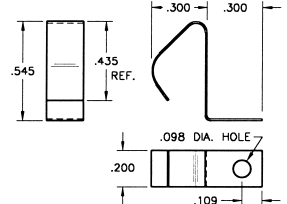


CAT. NO. 5230  
CAT. NO. 5230TR



Tape and Reel Spec's: 24mm wide; 12mm pitch;  
13 inch reel (400 pieces per reel)

### For "A" • "AA" • "9V"



CAT. NO. 5231  
CAT. NO. 5231TR

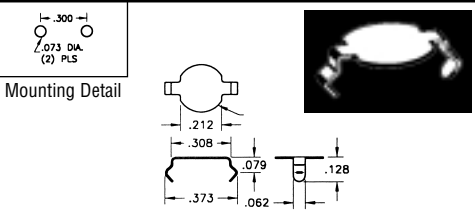


Tape and Reel Spec's: 32mm wide; 12mm pitch;  
13 inch reel (400 pieces per reel)

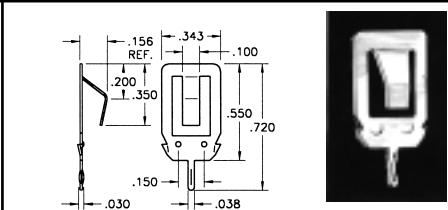
• ECONOMICAL • SPACE SAVING

## PC BATTERY CONTACTS

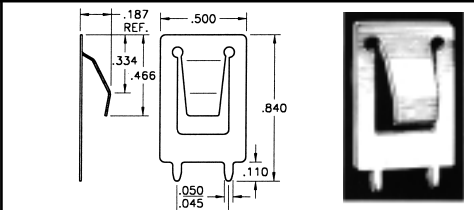
• Ideal for self-contained battery compartments  
• Contact us for modifications and custom design



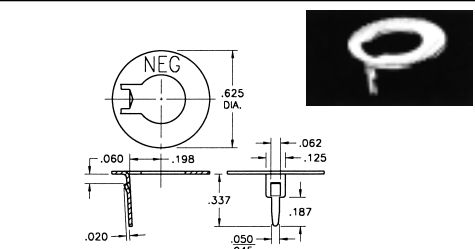
CAT. NO. 2990 .008 Thick, Phosphor Bronze, Nickel Plate



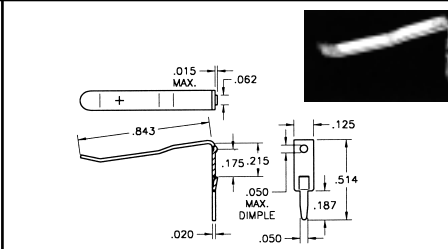
CAT. NO. 108-2 .012 Thick, Spring Steel, Nickel Plate



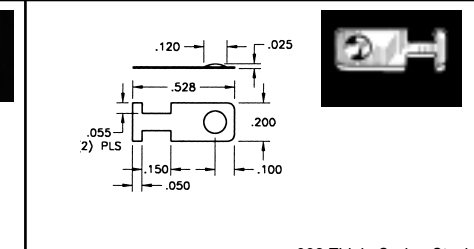
CAT. NO. 109-2 .012 Thick, Spring Steel, Nickel Plate



CAT. NO. 105-3 .020 Thick, Spring Steel, Nickel Plate



CAT. NO. 105-2 .020 Thick, Spring Steel, Nickel Plate



CAT. NO. 230-1 .008 Thick, Spring Steel, Nickel Plate





Designers' Choice

# BATTERY CONTACTS

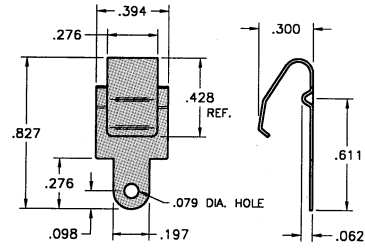
## BATTERY SPRING & BUTTON CONTACTS

- Economical and reliable contacts are ideal for molded cases with self contained battery compartments
- Single and dual contact designs available for "A", "AA", "AAA", "AAAA" & "N" size batteries
- "Solder tab" design for either wire lead or PC mounting
- Unique spring contacts adjust to variations in battery lengths
- Reliable spring contacts assure low contact resistance and a dependable connection
- Space saving, economical, excellent mechanical construction

## SPRING CONTACT FOR "A" • "AA" • "9V" SIZES

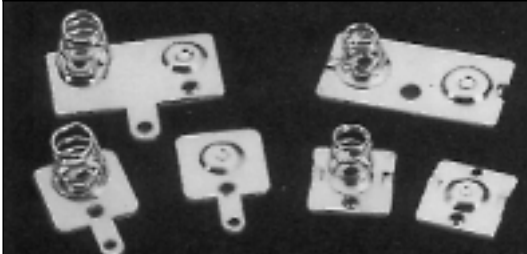


MATERIAL: .012 Phosphor Bronze, Nickel Plate



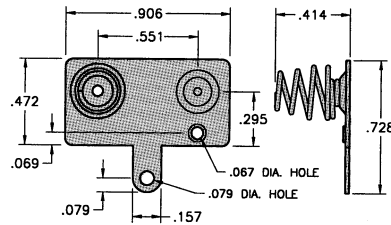
CAT. NO. 5209

## BATTERY CONTACTS FOR "A" • "AA" SIZES



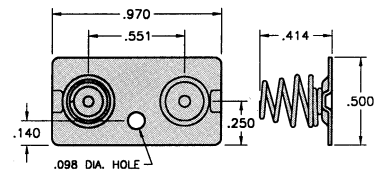
MATERIAL:  
Plate: .020 Steel, Nickel Plate  
Spring: Spring Steel, Nickel Plate

Dual Contact w/Tabs



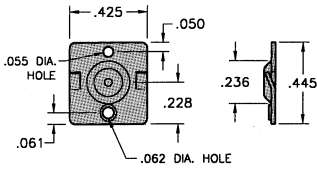
CAT. NO. 5211

Dual Contact



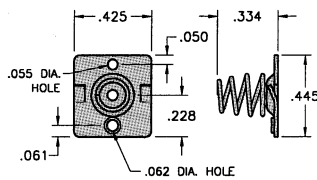
CAT. NO. 5212

(+) Positive Button



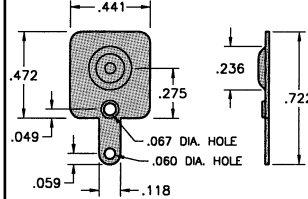
CAT. NO. 5224

(-) Negative Spring



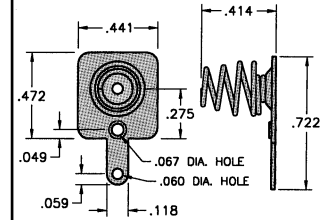
CAT. NO. 5202

(+) Positive Button w/Tabs



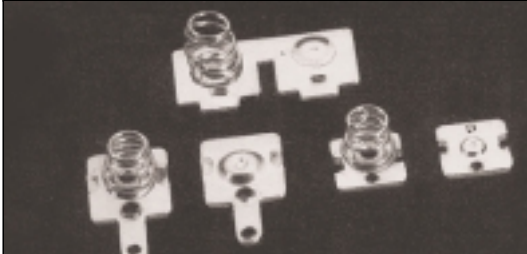
CAT. NO. 5223

(-) Negative Spring w/Tabs



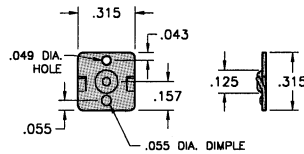
CAT. NO. 5201

## BATTERY CONTACTS FOR "AAA" • "AAAA" • "N" SIZES



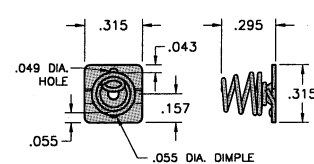
MATERIAL:  
Plate: .020 Steel, Nickel Plate  
Spring: Spring Steel, Nickel Plate

(+) Positive Button



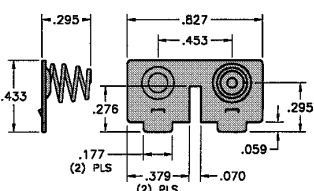
CAT. NO. 5225

(-) Negative Spring

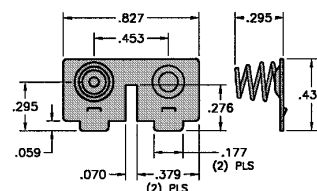


CAT. NO. 5203

Dual Contact

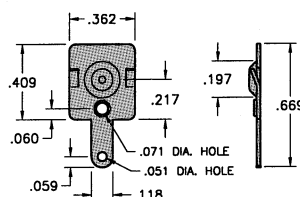


CAT. NO. 5214 (Left Side)



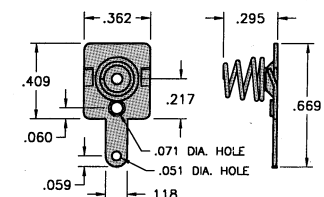
CAT. NO. 5213 (Right Side)

(+) Positive Button w/Tabs



CAT. NO. 5226

(-) Negative Spring w/Tabs



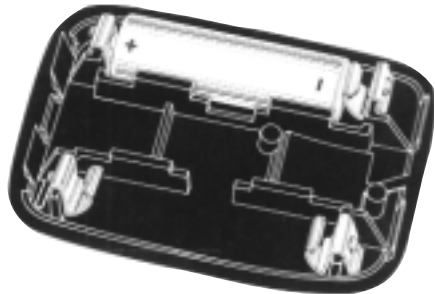
CAT. NO. 5204

# BATTERY CONTACTS

Designers' Choice

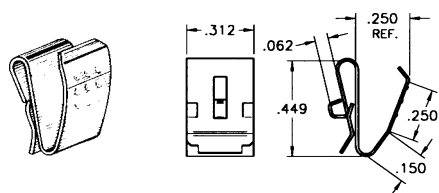


## SNAP-ON CONTACTS FOR "A" • "AA" • "AAA" • "AAAA" • "N" SIZES



- Economical and reliable contacts are ideal for molded cases with self contained battery compartments
- Single & dual contact designs available for "A" • "AA" • "AAA" • "AAAA" • "N" size batteries
- Solder "ear" to facilitate soldering of wire lead
- Unique spring tension contact adjusts to variations in battery length
- Reliable spring tension contacts assure low contact resistance
- Clips easily onto .060 to .070 thick panel edges
- Sharp barbs securely anchor contact in place

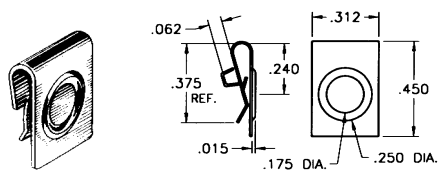
### For "A" • "AA"



CAT. NO. 209

MATERIAL  
.012 Spring Steel,  
Nickel Plate

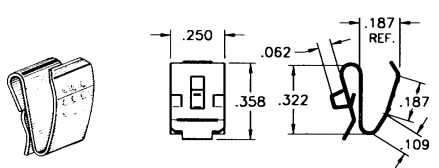
### For "A" • "AA"



CAT. NO. 228

MATERIAL  
.010 Spring Steel,  
Nickel Plate

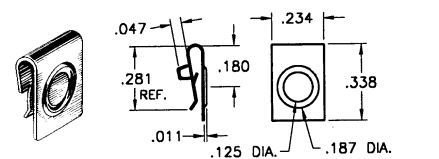
### For "AAA" • "AAAA" • "N"



CAT. NO. 204

MATERIAL  
.010 Spring Steel,  
Nickel Plate

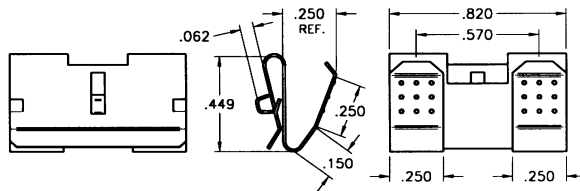
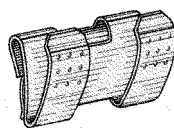
### For "AAA" • "AAAA" • "N"



CAT. NO. 238

MATERIAL  
.010 Spring Steel,  
Nickel Plate

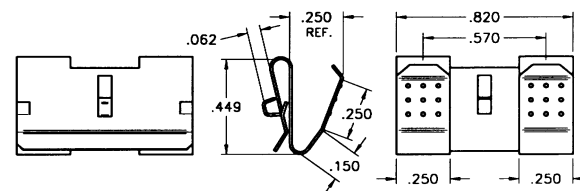
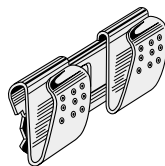
### For "A" • "AA"



CAT. NO. 210

MATERIAL: .012 Spring Steel, Nickel Plate

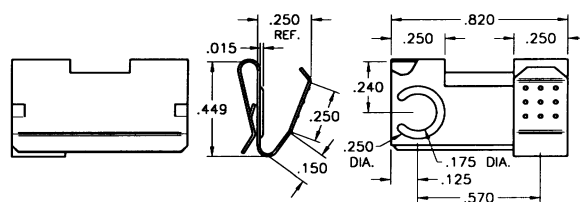
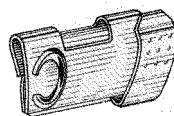
### For "A" • "AA"



CAT. NO. 288

MATERIAL: .012 Spring Steel, Nickel Plate

### For "A" • "AA"

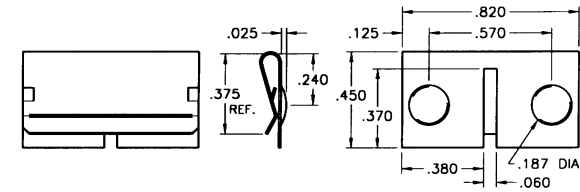
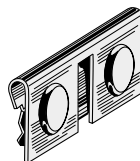


CAT. NO. 290 - Left (shown)

CAT. NO. 291 - Right

MATERIAL: .012 Spring Steel, Nickel Plate

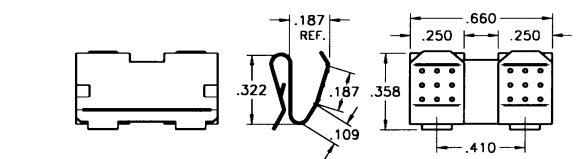
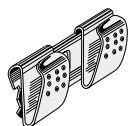
### For "A" • "AA"



CAT. NO. 292

MATERIAL: .010 Spring Steel, Nickel Plate

### For "AAA" • "AAAA" • "N"



CAT. NO. 202

MATERIAL: .010 Spring Steel, Nickel Plate

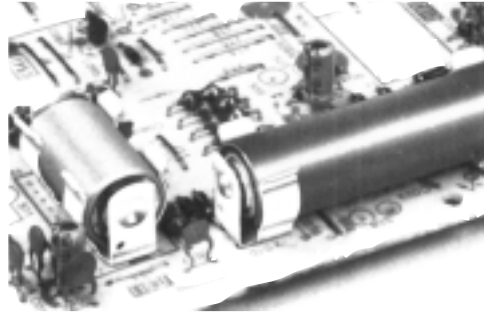


Designers' Choice

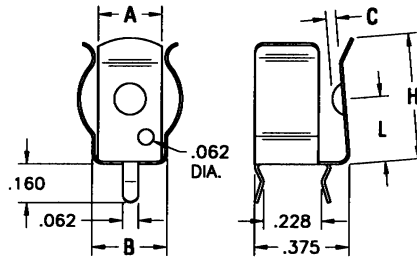
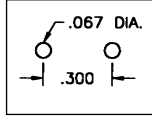
# BATTERY CLIPS & CONTACTS

## SNAP-IN PC BATTERY CLIPS FOR "A" • "AA" • "AAA" • "AAAA" • "N" SIZES

- Available for "A" • "AA" • "AAA" • "AAAA" • "N" size batteries
- Mounts securely to the PC board with advanced "Snap-In" design for thru hole mounting
- "Snap-In" clip holds firmly for wave soldering
- Reliable spring tension assures low contact resistance
- Low profile, economical design
- Retains battery securely to withstand shock and vibration



Mounting Detail



MATERIAL: Spring Steel, Nickel Plate

CAT. NO.	BATTERY SIZE	BATTERY DIA.	A	B	C	H	L	MAT'L THICK
52	"A" • "AA"	No Ears	.250	—	.040	.500	.260	.010
92	"A" • "AA"	.531-.665	.312	.375	.060	.593	.359	.012
2915	"A" • "AA"	.531-.665	.312	.375	.060	.593	.359	.015
82	"AAA" • "N"	.375-.460	.250	.300	.040	.500	.260	.010
51	"AAAA"	.300-.350	See drawing below					.010

New



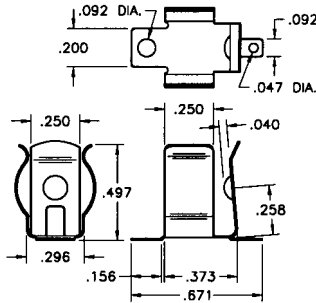
No Ears

## SURFACE MOUNT BATTERY CLIP

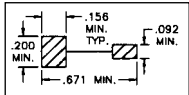
For "AAA" • "N"



- Low profile for densely packed PCBs
- "Flow-Hole" SMT solder tail design for increased joint strength
- Retains cell securely, withstands shock and vibration
- All conductive polystyrene carrier tape meets ANSI/EIA -481 standard



Pad Layout



MATERIAL: .010 Spring Steel, Tin Plate  
Tape & Reel Specs: 32mm wide; 16mm pitch; 13 inch reel, (300 pieces per reel)

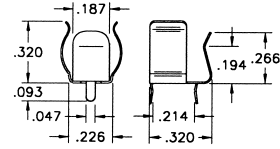
CAT. NO. 55 (Bulk)

CAT. NO. 55TR (Tape and Reel)

"AAAA"

MATERIAL: .010 Spring Steel, Nickel Plate

CAT. NO. 51



Mounting Detail



## ECONOMY CLIPS FOR "AA" • "C" • "D" SIZES

Designed for mounting in self-contained, non-metallic battery compartments. Reliable spring tension assures low contact resistance. Recessed contact holds battery in place. All clips have anti-rotation tab.

MATERIAL: .016 Spring Steel, Nickel Plate

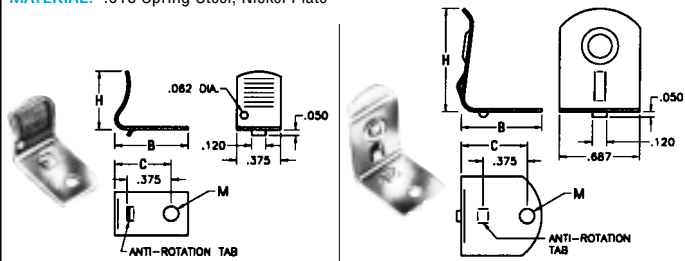
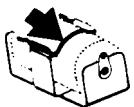


FIG. 1

FIG. 2

CAT. NO.	FIG. NO.	B	C	H	M MTHG. HOLE	CELL SIZE
206	1	.625	.480	.500	.128	AA
207	2	.687	.547	.875	.128	C
208	2	.750	.562	1.260	.128	D

## BATTERY RETAINER CLIPS



- Prevents battery from loosening in battery holder
- Retainer clip slips on the ears of the battery holder clip
- Manufactured from Spring Steel, Nickel plate

CAT. NO. 61

Retainer for "AA" or cells with diameters of .532" to .562". Used with Keystone Battery Clips Cat. No. 91, 92, 92-015, 95, 99 and 100.

CAT. NO. 62

Retainer for "C" cells or similar size batteries to 1.032" diameter. Used with Keystone Battery Clips Cat. No. 86, 87, 93 and 222.

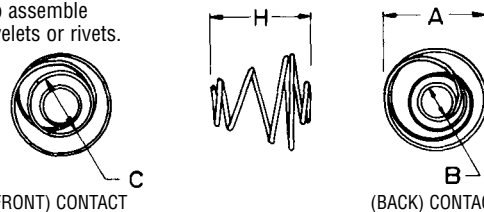
CAT. NO. 63

Retainer for "D" cells or similar size batteries to 1.343" diameter. Used with Keystone Battery Clips Cat. No. 88, 89 and 94.

## BATTERY SPRING CONTACTS

For "A" • "AA" • "C" • "D" Sizes

Easy to assemble with eyelets or rivets.



(FRONT) CONTACT

(BACK) CONTACT

CAT. NO.	H	A	B	C	MATERIAL
211 ("A" • "AA")	.290	.335	.100	.140	.025 Dia. Spring Steel, Nickel Plate
211-D ("C" • "D")	.850	.650	.162	.300	.040 Dia. Spring Steel, Nickel Plate

# BATTERY & COMPONENT CLIPS

Designers' Choice



## STEEL SPACE SAVER BATTERY CLIPS

FOR "AA" • "C" • "D" SIZES

IDEAL FOR • CARBON ZINC • NiCd • NiMH • LITHIUM • ALKALINE BATTERIES



Available with insulated or non-insulated contact.  
Positive contact grips battery securely.

### SPECIFICATIONS

Clips: Spring Steel, Nickel Plate  
Contact Eyelets: Brass, Nickel Plate  
Insulating Washers: Moisture Proof, Resin Impregnated Fibre  
Terminal Lugs: Brass, Tin Plate

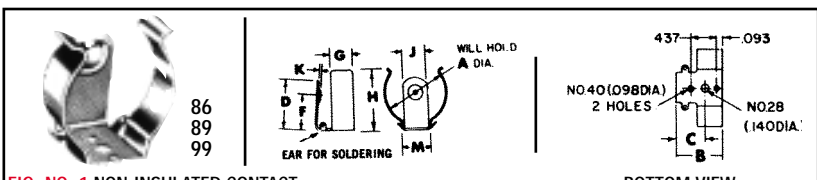


FIG. NO. 1 NON-INSULATED CONTACT

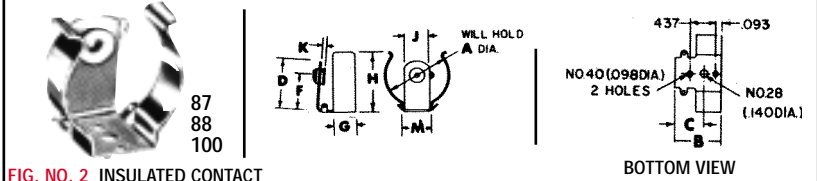


FIG. NO. 2 INSULATED CONTACT

CAT. NO.	FIG. NO.	CONTACT	A DIA. MIN. - MAX.	FOR CELLS	± .015	± .010	± .015	± .015	± .005	± .020	± .005	± .005	± .015	STEEL THICKNESS
					B	C	D	F	G	H	J	K	M	
86	1	NON-INSULATED	.875 to 1.125	C	.703	.391	.812	.593	.375	.937	.500	.050	.605	.020
87	2	INSULATED	.875 to 1.125	C	.703	.391	.812	.593	.375	.937	.500	.070	.605	.020
88	2	INSULATED	1.187 to 1.350	D	.775	.463	1.075	.750	.437	1.187	.500	.070	.609	.020
89	1	NON-INSULATED	1.187 to 1.350	D	.775	.463	1.075	.750	.437	1.187	.500	.050	.609	.020
99	1	NON-INSULATED	.531 to .650	AA	.703	.391	.609	.375	.375	.609	.312	.050	.353	.015
100	2	INSULATED	.531 to .650	AA	.703	.391	.609	.375	.375	.609	.312	.070	.353	.015

## ALUMINUM & STEEL COMPONENT CLIPS

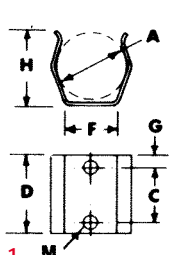
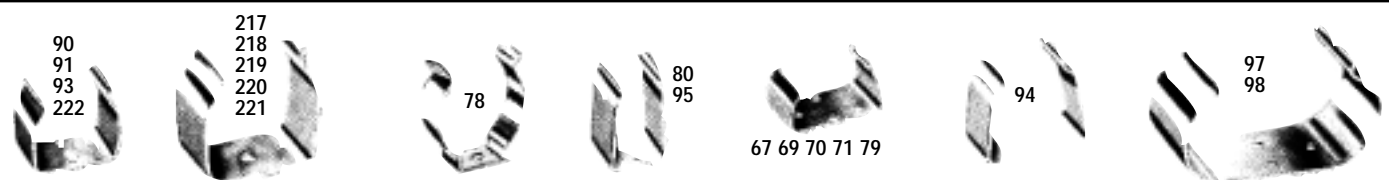


FIG. 1

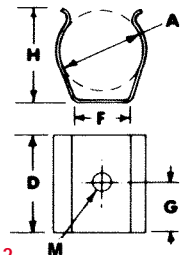


FIG. 2

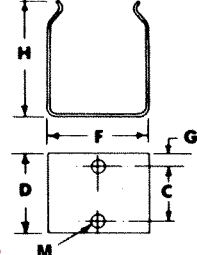


FIG. 3

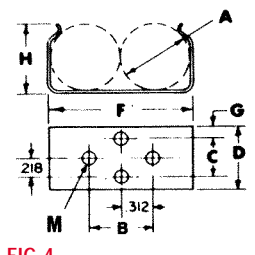


FIG. 4

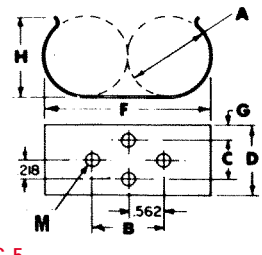


FIG. 5

Precision made spring clips are available in a wide range of sizes. These clips will hold round, square and rectangular batteries or components with similar dimensions. Clips are manufactured from Aluminum or Spring Steel.

### MATERIAL

Steel Clips: Spring Steel, Nickel Plate  
Aluminum Clips: 2024-T3

\*These clips will hold batteries or components of similar dimensions.

CAT. NO.	FIG. NO.	A MIN MAX DIA. OR SIZE	*FOR CELLS	± .005	± .005	± .005	± .005	± .010	± .015	± .003	MATERIAL
				B	C	D	F	G	H	M MTG HOLES.	
67	3	.375 x .125	CRYSTAL	—	.187	.375	.410	.093	.210	2#51(.067)	.016 Steel
69	4	.562 (2)	(2) AA	.625	.437	.625	1.125	.093	.562	4#40(.098)	.015 Steel
70	4	.656 (2)	(2) RM12	.625	.437	.625	1.343	.093	.740	4#40(.098)	.025 Alum.
71	3	.593 x 1.031	"9" VOLT	—	.437	.625	1.031	.093	.687	2#40(.098)	.015 Steel
78	2	1.187 to 1.350	D	—	—	.500	.562	.250	1.218	1#29(.136)	.020 Steel
79	4	.650 x 1.280	TR146X	.625	.437	.625	1.050	.093	.765	4#40(.098)	.015 Steel
80	3	.650 x 1.280	"9" VOLT	—	.437	.625	.675	.093	1.187	2#40(.098)	.015 Steel
90	1	.375 to .468	AAA	—	.437	.625	.312	.093	.453	2#40(.098)	.020 Alum.
91	1	.531 to .656	AA	—	.437	.625	.406	.093	.562	2#40(.098)	.020 Alum.
93	1	.875 to 1.125	C	—	.437	.625	.937	.093	.921	2#40(.098)	.020 Alum.
94	3	1.187 to 1.375	D	—	.437	.625	1.250	.093	1.218	2#40(.098)	.032 Alum.
95	3	.625 x 1.000	"9" VOLT	—	.437	.625	.656	.093	1.125	2#40(.098)	.020 Alum.
97	5	1.031 (2)	(2) C	—	.437	.625	2.062	.093	1.125	2#40(.098)	.020 Alum.
98	5	1.312 (2)	(2) D	1.125	.437	1.000	2.656	.281	1.437	4#40(.098)	.032 Alum.
217	2	1.375 to 1.500	NiCd	—	—	.812	1.218	.406	1.430	1#22(.157)	.025 Steel
218	2	1.437 to 1.687	NiCd	—	—	.812	1.375	.406	1.531	1#22(.157)	.025 Steel
219	2	2.000 to 2.500	NiCd	—	—	.812	1.687	.406	2.156	1#22(.157)	.025 Steel
220	2	.187 to .203	5mm	—	—	.315	.158	.157	.280	1#42(.093)	.010 Steel
221	2	.859 to .890	.875	—	—	.468	.828	.234	.906	1#22(.157)	.020 Steel
222	1	.875 to 1.125	C	—	.437	.625	.937	.093	.921	2#40(.098)	.020 Steel



# 9 VOLT HOLDERS & CONNECTORS

Designers' Choice



## HORIZONTAL 9 VOLT PC SNAP-ONS

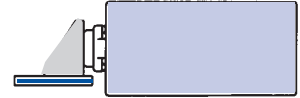
### MOUNTS DIRECTLY TO PRINTED CIRCUIT BOARD

PC Male/Female for any standard 9 Volt Battery. Cut costs by eliminating wiring. Compact Space Saver.

- Space saving design installs directly onto the PC board
- Contacts available for .062 and .093 thick PC boards
- Ideal for self-contained battery compartments



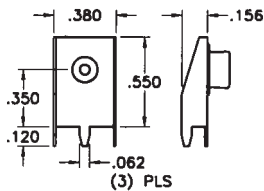
To Mount Battery "On" PC Board  
Use Cat. No. 593 and Cat. No. 594



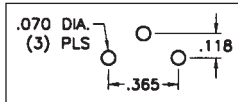
To Mount Battery "Off" PC Board  
Use Cat. No. 635 and Cat. No. 636

**MATERIAL:** Frame: .015 Steel, Tin Plate; Contacts: Steel, Nickel Plate

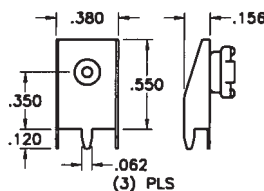
### "On-Board"



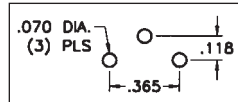
Mounting Detail



CAT. NO. 593 - Male

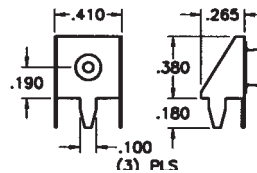


Mounting Detail

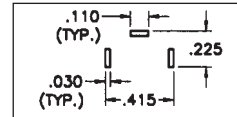


CAT. NO. 594 - Female

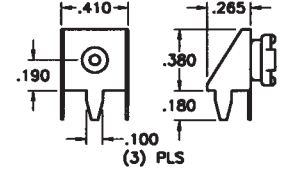
### "Off-Board"



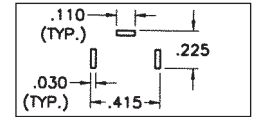
Mounting Detail



CAT. NO. 635 - Male



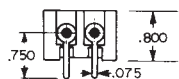
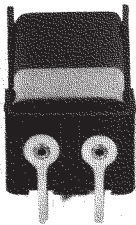
Mounting Detail



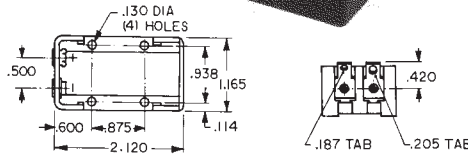
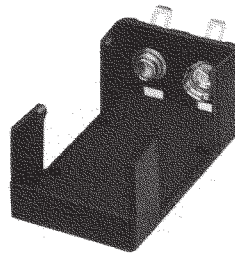
CAT. NO. 636 - Female

## UNIVERSAL 9 VOLT BATTERY HOLDERS

With PC Terminals or Combination Quick-Fit/Solder Lug Terminals.



CAT. NO. 1294  
PC Terminals



CAT. NO. 1295  
Quick-Fit/Solder Lug Terminals

Holds any size, any shape, standard 9 Volt battery.

Eliminates need to specify an exact battery brand, size or shape. Ideal for power source or memory back-up use in minicomputers, telecommunications, data processing, security systems, clocks, radios, toys and appliances.

- Male-female snap-in terminals assure positive contact and proper polarity
- Durable, rugged construction
- Excellent spring retention—holds battery in place
- Withstands severe shock and vibration
- Operating temperature range: -40°F to +266°F (-40°C to +130°C)
- Impervious to most industrial solvents

### SPECIFICATIONS

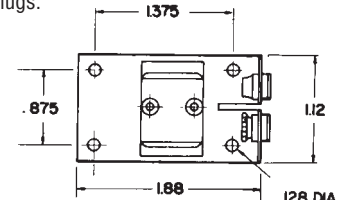
**Body:** Molded from high impact, Glass Filled Nylon  
**Terminals:** Brass, Tin Plate  
**Contacts:** Steel, Nickel Plate

## 9 VOLT SNAP-IN BATTERY HOLDERS

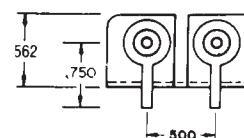
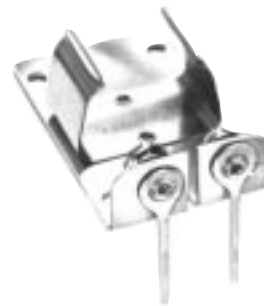
For use with standard 9 Volt battery. Battery snaps in place to insure positive contact. Ideal where severe shock and vibration are encountered. Available with standard solder lugs or printed circuit lugs.

### SPECIFICATIONS

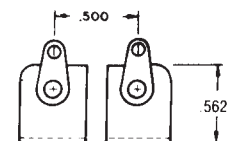
**Frame:** Aluminum  
**Solder Lugs:** Brass, Tin Plate  
**PC Lugs:** Brass, Tin Plate  
**Contacts & Clips:** Steel, Nickel Plate  
**Insulation:** Resin Impregnated Fibre



NOTE: For battery thicknesses over .640; specify Cat. No. 1290-79 or 1291-79.



CAT. NO. 1291 PC Lugs



CAT. NO. 1290 Solder Lugs

