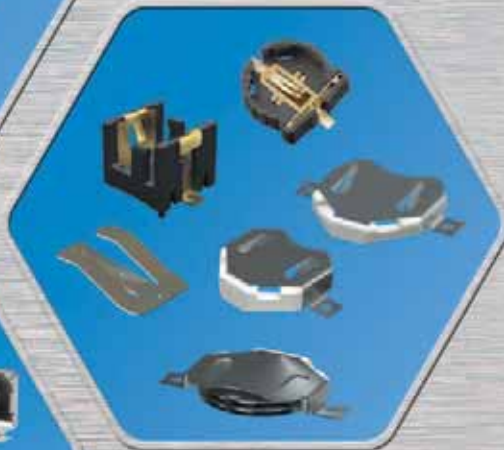
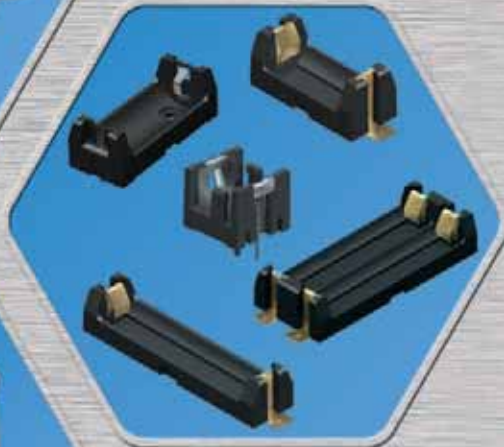


# FLINKENBERG

[www.flinkenberg.fi](http://www.flinkenberg.fi)

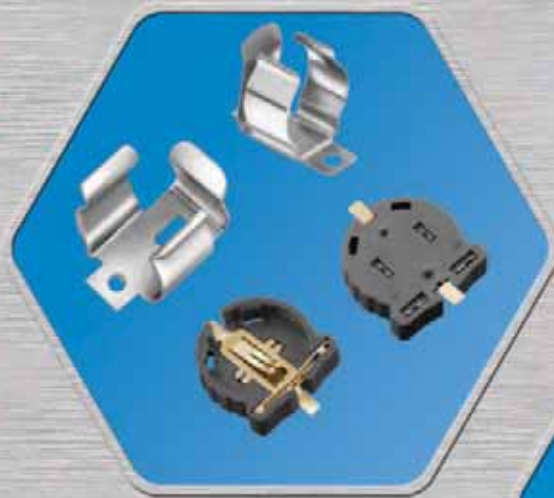


**NEW  
PRODUCTS**  
*for 2010*

DESIGNERS AND MANUFACTURERS

**KEYSTONE**  
ELECTRONICS CORP.

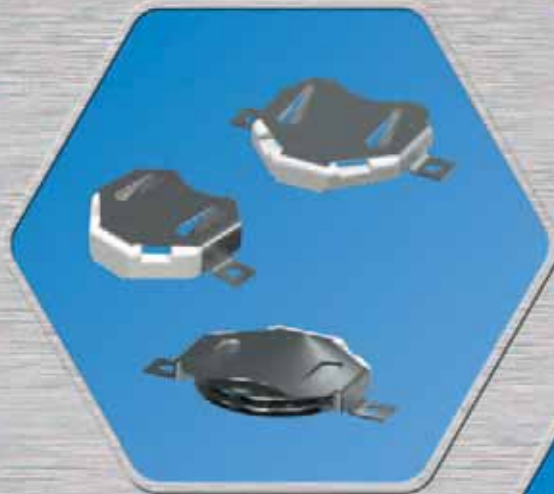
RoHS COMPLIANT ~ ISO 9001 CERTIFIED



**Low Profile Surface Mount  
Battery Clips & Holders**  
Pages 1 - 3



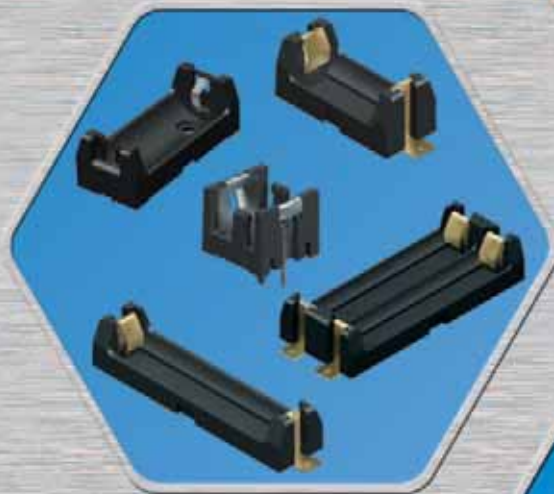
**Surface Mount  
Fuse Clips & Holders**  
Page 7



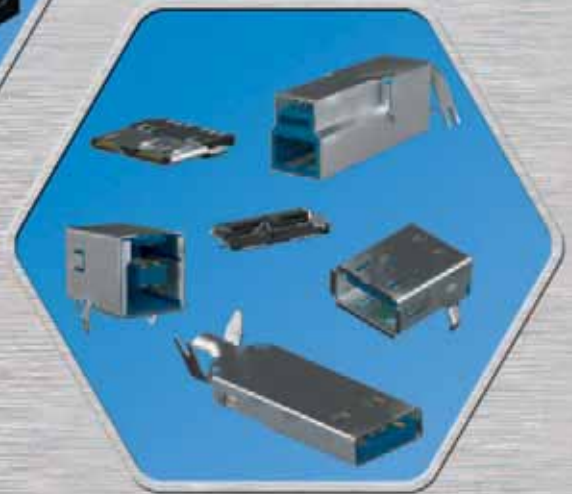
**6V Coin Cell  
Battery Retainers**  
Page 2



**UL Recognized Quick-fit  
Terminals - E201546**  
Pages 8 & 9



**Low Profile SMT & THM  
Battery Holders**  
Pages 4 & 5



**3.0 USB Plugs & Sockets**  
Pages 10

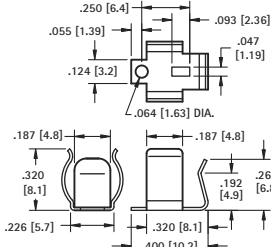
# PRODUCT SPOTLIGHT

# SURFACE MOUNT BATTERY CLIPS/CONTACTS

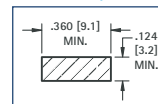
AVAILABLE ON TAPE AND REEL

- "Flow-Hole" SMT solder tail design for increased joint strength
- Tin-Nickel plating is ideal for lead free, high temperature soldering
- Matte Tin plating is ideal for lower soldering temperatures for other temperature sensitive components

## "AAAA"



Pad Layout

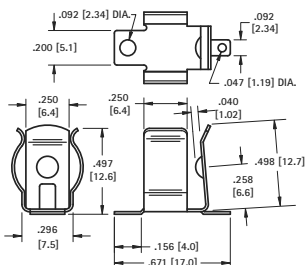


MATERIAL: .010 (.25) Spring Steel

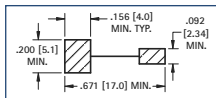
TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
BULK	TAPE	BULK	TAPE
50	50TR	550	550TR

Tape & Reel Spec's: 24mm wide; 16mm pitch; 13 inch reel, (500 pieces per reel)

## "AAA"-"N"



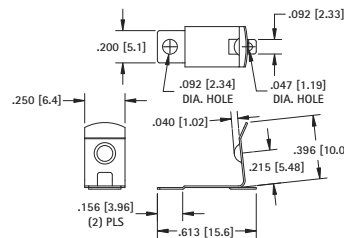
Pad Layout



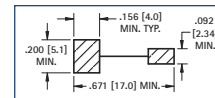
MATERIAL: .010 (.25) Spring Steel

TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
BULK	TAPE	BULK	TAPE
55	55TR	555	555TR

Tape & Reel Spec's: 32mm wide; 16mm pitch; 13 inch reel, (300 pieces per reel)



Pad Layout

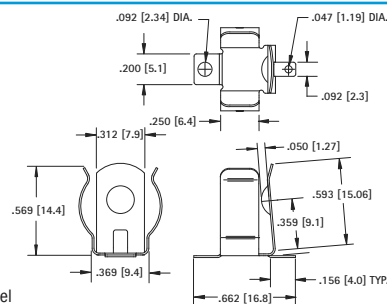


MATERIAL: .010 (.25) Spring Steel

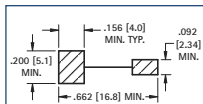
TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
BULK	TAPE	BULK	TAPE
56	56TR	556	556TR

Tape & Reel Spec's: 32mm wide; 12mm pitch; 13 inch reel, (500 pieces per reel)

## "A"-"AA"



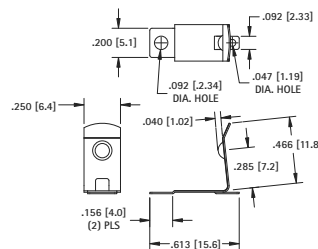
Pad Layout



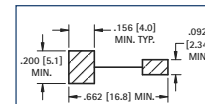
MATERIAL: .012 (.30) Spring Steel

TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
BULK	TAPE	BULK	TAPE
53	53TR	553	553TR

Tape & Reel Spec's: 44mm wide; 24mm pitch; 13 inch reel, (150 pieces per reel)



Pad Layout



MATERIAL: .010 (.25) Spring Steel

TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
BULK	TAPE	BULK	TAPE
57	57TR	557	557TR

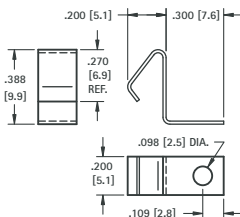
Tape & Reel Spec's: 32mm wide; 12mm pitch; 13 inch reel, (400 pieces per reel)

# SURFACE MOUNT LEAF-SPRING CONTACTS

AVAILABLE ON TAPE AND REEL

- Economical & reliable contacts are ideal for surface mount applications
- Unique spring tension contacts adjust to variations in battery length
- Reliable spring tension contacts assure low contact resistance
- SMT solder tail with "flow-hole" design for increased joint strength

## "AAA"-"AAAA"-"12V"-"N"

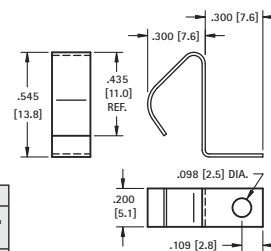


MATERIAL: .010 (.25) Spring Steel

TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
BULK	TAPE	BULK	TAPE
5230	5230TR	5330	5330TR

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

## "A"-"AA"-"9V"



MATERIAL: .010 (.25) Spring Steel

TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
BULK	TAPE	BULK	TAPE
5231	5231TR	5331	5331TR

Tape and Reel Spec's: 32mm wide; 16mm pitch; 13 inch reel (250 pieces per reel)

# LOW PROFILE SURFACE MOUNT COIN CELL HOLDERS

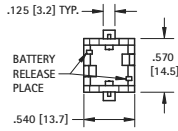
AVAILABLE ON TAPE AND REEL

- Surface mount coin cell holders designed for reflow or wave soldering.
- Battery can be installed and replaced with ease.

- Solder tails are viewable for quick inspection of the solder joint.
- All holders are available on tape and reel for pick and place applications.

- All conductive polystyrene carrier tape meets ANSI/EIA - 481 standard.

## 1/3N CELL



### MATERIAL:

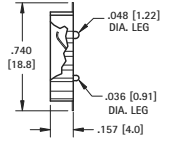
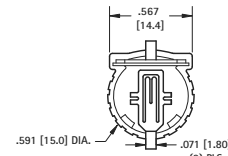
**Contacts:** .012 (.30) Phosphor Bronze, Gold Plate (Flash)  
**Base:** High Temperature Nylon 46, UL94V-0

**CAT. NO. 498** (Bulk)

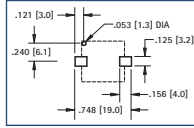
**CAT. NO. 498TR** (Tape & Reel)

**Tape & Reel Spec's:** 44mm wide; 24mm pitch; 13 inch reel (150 pieces per reel)

## TOP LOADING



### Pad Layout



### MATERIAL:

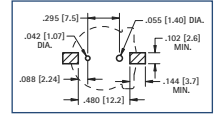
**Contacts:** .008 (.20) Phosphor Bronze, Gold Plate (Flash)  
**Base:** Glass filled PPS, UL 94V-0

**CAT. NO. 1056** (Bulk)

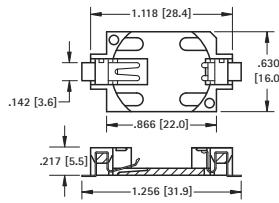
**CAT. NO. 1056TR** (Tape & Reel)

**Tape & Reel Spec's:** 32mm wide; 20mm pitch; 13 inch reel (500 pieces per reel)

### Pad Layout



## 2025 / 2032 CELL



### MATERIAL:

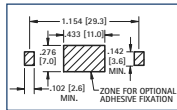
**Contacts:** .006 (.15) Phosphor Bronze, Gold Plate (Flash)  
**Base:** Glass Filled LCP, UL 94V-0

**CAT. NO. 1060** (Bulk)

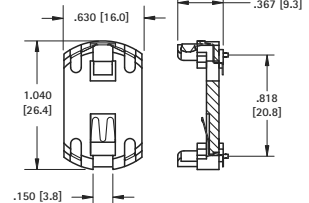
**CAT. NO. 1060TR** (Tape & Reel)

**Tape & Reel Spec's:** 44mm wide; 24mm pitch; 13 inch reel (500 pieces per reel)

### Pad Layout



## 2450 CELL



### MATERIAL:

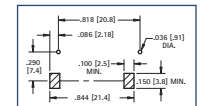
**Contacts:** .008 (.20) Phosphor Bronze, Gold Plate (Flash)  
**Base:** High Temperature Nylon 46, UL94V-0

**CAT. NO. 1054** (Bulk)

**CAT. NO. 1054TR** (Tape & Reel)

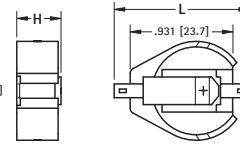
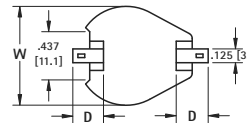
**Tape & Reel Spec's:** 44mm wide; 24mm pitch; 13 inch reel (200 pieces per reel)

### Pad Layout

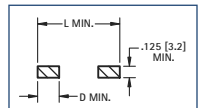


## SIDE LOADING

### 20mm & 23mm CELLS



### Pad Layout



**MATERIAL:** **Contacts:** .015 (.38) Steel **Base:** High Temperature, Nylon 46, UL 94V-0  
**Tape & Reel Spec's:** 44mm wide; 32mm pitch; 13 inch reel (200 pieces per reel)

SMALL PAD PATTERN									
Contacts: Tin Nickel-Plate									
CAT. NO. BULK	CAT. NO. TAPE	CELLS	H	W	L	D	CELL	BATTERY	
1061	1061TR	1	.290 (7.4)	.896 (22.8)	1.015 (25.8)	.156 (4.0)	20mm	2016*, 2020, 2025, 2032	
1062	1062TR	2	.391 (9.9)	.896 (22.8)	1.015 (25.8)	.156 (4.0)	20mm		
1071	1071TR	1	.290 (7.4)	1.000 (25.4)	1.015 (25.8)	.156 (4.0)	23mm	2320, 2325, 2330	

\*Cat. No. 1061 (1 or 2 cells); Cat. No. 1062 (3 cells)

LARGE PAD PATTERN									
Contacts: Tin-Nickel Plate									
CAT. NO. BULK	CAT. NO. TAPE	CELLS	H	W	L	D	CELL	BATTERY	
1063	1063TR	1	.290 (7.4)	.896 (22.8)	1.250 (31.8)	.278 (7.1)	20mm	2016*, 2020, 2025, 2032	
1064	1064TR	2	.391 (9.9)	.896 (22.8)	1.250 (31.8)	.278 (7.1)	20mm		
1073	1073TR	1	.290 (7.4)	1.000 (25.4)	1.250 (31.8)	.278 (7.1)	23mm	2320, 2325, 2330	

\*Cat. No. 1063 (1 or 2 cells); Cat. No. 1064 (3 cells)

Contacts: Gold Plate (Flash)									
CAT. NO. BULK	CAT. NO. TAPE	CELLS	H	W	L	D	CELL	BATTERY	
1081	1081TR	1	.290 (7.4)	.896 (22.8)	1.015 (25.8)	.156 (4.0)	20mm	2016*, 2020, 2025, 2032	
1082	1082TR	2	.391 (9.9)	.896 (22.8)	1.015 (25.8)	.156 (4.0)	20mm		
1091	1091TR	1	.290 (7.4)	1.000 (25.4)	1.015 (25.8)	.156 (4.0)	23mm	2320, 2325, 2330	

\*Cat. No. 1081 (1 or 2 cells); Cat. No. 1082 (3 cells)

Contacts: Gold Plate (Flash)									
CAT. NO. BULK	CAT. NO. TAPE	CELLS	H	W	L	D	CELL	BATTERY	
1093	1093TR	1	.290 (7.4)	.896 (22.8)	1.250 (31.8)	.278 (7.1)	20mm	2016*, 2020, 2025, 2032	
1094	1094TR	2	.391 (9.9)	.896 (22.8)	1.250 (31.8)	.278 (7.1)	20mm		
1083	1083TR	1	.290 (7.4)	1.000 (25.4)	1.250 (31.8)	.278 (7.1)	23mm	2320, 2325, 2330	

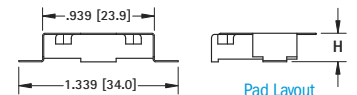
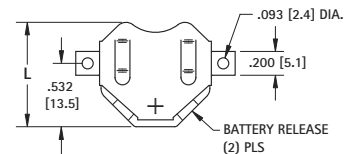
\*Cat. No. 1093 (1 or 2 cells); Cat. No. 1094 (3 cells)

## INSULATED RETAINERS

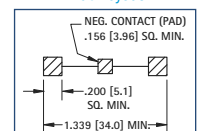
### 20mm CELLS



- Ideal for 6 volt or 3 volt applications.
- Two coin cell batteries can be installed in series.
- Plastic insulator prevents shorting of battery, within the holder, if installed improperly.
- Low profile.
- Battery release ports for easy battery replacement.



### Pad Layout



**MATERIAL:** **Contacts:** .010 (.25) Phosphor Bronze  
**Insulator:** High Temperature, Nylon 46, UL 94V-0  
**Tape & Reel Spec's:** 44mm wide; 28mm pitch; 13 inch reel  
**3020TR, 3070TR** 500 pieces per reel  
**3022TR, 3072TR** 250 pieces per reel

TIN-NICKEL PLATE		MATTE TIN PLATE		BATTERY REFERENCE		
CAT. NO. BULK	CAT. NO. TAPE	CAT. NO. BULK	CAT. NO. TAPE	L	H	6 volt (2) Cells
3020	3020TR	3070	3070TR	.890(22.6)	.156(4.0)	2012, 2016
3022	3022TR	3072	3072TR	.877(22.3)	.240(6.1)	2020, 2025
						2020, 2025
						2032

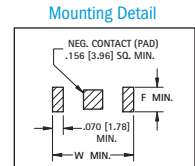
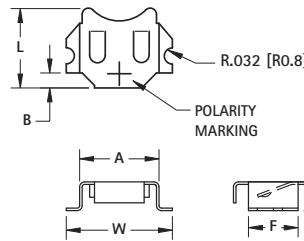
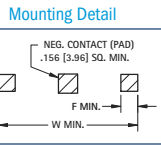
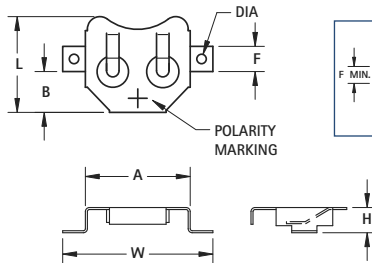
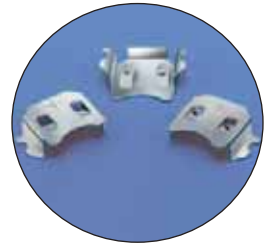
# POSITIVE SURFACE MOUNT COMPACT CONTACTS



AVAILABLE ON TAPE AND REEL

SMT battery retainers are suited for high density PCB packaging. These contacts are ideal for automated placement in SMT applications. Engineered with reliable spring tension, these contacts assure low resistance while firmly securing the battery within the retainer.

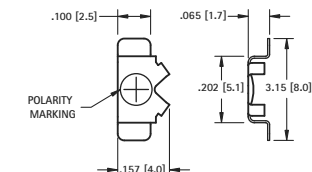
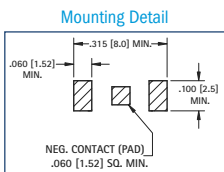
- Compatible with all wave and reflow operations
- Solder tails located outside of retainer body which facilitates visual inspection of the solder joints.
- Flow-hole solder tail designed for increased joint strength
- Compatible with most vacuum and mechanical pick & place assembly systems
- Matte Tin Finish for lower soldering temperatures needed for other temperature sensitive components
- Tin Nickel plated retainers are ideal for lead free, high temperature soldering applications
- All conductive polystyrene carrier tape meets ANSI/EIA-481 standards



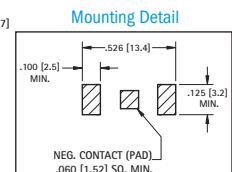
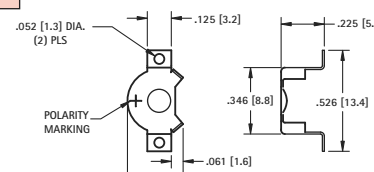
DWG. 1

DWG. 2

TIN-NICKEL PLATE		MATTE TIN PLATE		MATERIAL: .010 (.25) Phosphor Bronze										CELL DIA.		BATTERY REFERENCE		TAPE & REEL SPEC'S SUPPLIED ON 13 REELS
CAT. NO. BULK	CAT. NO. TAPE	CAT. NO. BULK	CAT. NO. TAPE	DWG. NO.	A	B	F	DIA	L	W	H							
2998	2998TR	3098	3098TR	2	.315 (8.0)	.060 (1.5)	.197 (5.0)	NO HOLE	.315 (8.0)	.421 (10.7)	.114 (2.9)	6.8mm	MC621, V364, SC621	24mm wide; 12mm pitch; 1250/reel				
2996	2996TR	3096	3096TR	1	.520 (13.2)	.203 (5.1)	.125 (3.2)	.052 (1.3)	.475 (12.1)	.700 (17.8)	.235 (6.0)	11.6mm	SR44, LR44, 357, MS76, PX76A, G-13, 303, V313	32mm wide; 16mm pitch; 600/reel				
3000	3000TR	3080	3080TR	1	.520 (13.2)	.203 (5.1)	.125 (3.2)	.047 (1.2)	.475 (12.1)	.745 (18.9)	.125 (3.2)	12mm	BR1216, CR1216, BR1220, CR1220, DL1225	32mm wide; 16mm pitch; 1000/reel				
3012	3012TR	3092	3092TR	1	.664 (16.9)	.281 (7.1)	.125 (3.2)	.047 (1.2)	.594 (15.1)	.914 (23.2)	.156 (4.0)	16mm	BR1612, BR1616, CR1616, CR1620, DL1632	44mm wide; 24mm pitch; 600/reel				
3026	3026TR	3078	3078TR	1	.831 (21.1)	.317 (8.0)	.200 (5.1)	.093 (2.4)	.782 (19.9)	1.210 (30.7)	.085 (2.2)	20mm	BR2016, CR2016, DL2016	44mm wide; 24mm pitch; 1000/reel				
3002	3002TR	3082	3082TR	1	.831 (21.1)	.317 (8.0)	.200 (5.1)	.093 (2.4)	.782 (19.9)	1.210 (30.7)	.156 (4.0)	20mm	BR2016, CR2016, DL2020, CR2025, DL2025	44mm wide; 24mm pitch; 500/reel				
3004	3004TR	3084	3084TR	1	.939 (23.9)	.375 (9.5)	.200 (5.1)	.093 (2.4)	.832 (21.1)	1.339 (34.0)	.156 (4.0)	23mm	BR2320, CR2320, BR2325, CR2325, DL2325	56mm wide; 32mm pitch; 400/reel				
3010	3010TR	3090	3090TR	1	.939 (23.9)	.375 (9.5)	.200 (5.1)	.093 (2.4)	.819 (20.8)	1.339 (34.0)	.240 (6.1)	23mm	CR2354, DL2354	56mm wide; 32mm pitch; 200/reel				
3006	3006TR	3086	3086TR	1	1.000 (25.4)	.406 (10.3)	.200 (5.1)	.093 (2.4)	.918 (23.3)	1.400 (35.6)	.156 (4.0)	24mm	CR2430, DL2430	56mm wide; 32mm pitch; 400/reel				
3008	3008TR	3088	3088TR	1	1.000 (25.4)	.406 (10.3)	.200 (5.1)	.093 (2.4)	.890 (22.6)	1.400 (35.6)	.230 (5.8)	24mm	CR2450, DL2450	56mm wide; 32mm pitch; 200/reel				



## HEARING AID CELL



DWG. 3

DWG. 4

4.8mm CELL

7.9mm CELL

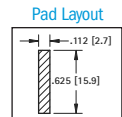
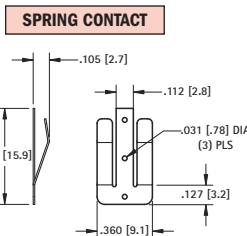
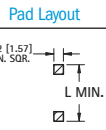
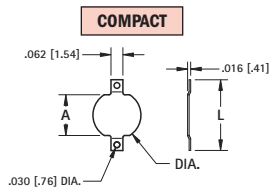
CAT. NO. BULK	CAT. NO. TAPE	DWG. NO.	MATERIAL	FINISH	CELL DIA.	BATTERY REFERENCE	TAPE & REEL SPEC'S SUPPLIED ON 13 REELS
2994	2994TR	3	.006 (.15) Phosphor Bronze	Gold Plate	4.8mm	ML414, SR416	16mm wide; 8mm pitch; 1500/reel
2988	2988TR	4	.010 (.25) Phosphor Bronze	(Flash)	7.9mm	DA13, AZ13E, PR13H, V13AT	24mm wide; 12mm pitch; 1000/reel

# NEGATIVE SURFACE MOUNT COMPACT CONTACTS

- Economical • Space saving • Ideal for self-contained battery compartments • Contact us for modifications and custom design • Assures proper contact



MATERIAL: .008 (.20) Brass



TIN-NICKEL PLATE		MATTE TIN PLATE		TAPE & REEL SPECS SUPPLIED ON 7" REELS			
CAT. NO. BULK	CAT. NO. TAPE	CAT. NO. BULK	CAT. NO. TAPE	L	A	DIA.	
2991	2991TR	2981	2981TR	.368 (9.4)	.212 (5.4)	.250 (6.4)	16mm wide, 8mm pitch, 1500 pieces per reel
2992	2992TR	2982	2982TR	.289 (7.4)	.133 (3.4)	.186 (4.7)	16mm wide, 12mm pitch, 1000 pieces per reel

TIN-NICKEL PLATE		MATTE TIN PLATE	
CAT. NO. BULK	CAT. NO. TAPE	CAT. NO. BULK	CAT. NO. TAPE
2993	2993TR	2983	2983TR

MATERIAL: .010 (.25) Brass  
Tape & Reel Spec's: 32mm wide; 20mm pitch; 13 inch reel (1500 pieces per reel)

# THM LOW PROFILE LITHIUM & ALKALINE CELL HOLDERS

"1/2AA" "AA", "2/3A"

## FEATURES

- Snap-In PC contact holds in position for wave soldering
- Tin Nickel Plated contacts for excellent solderability and durability
- Polarity clearly marked for orientation
- Snap-on retainer cover (optional) retains battery securely to withstand shock and vibration. Helps protect against shorting. Tamper-proof.

## APPLICATIONS

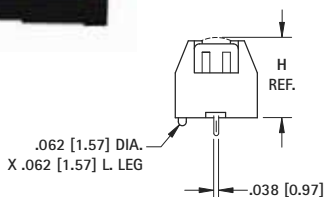
- Computer memory, power backup systems.
- Telecommunications
- Residential, industrial and commercial security systems
- PLC and industrial controls



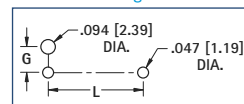
## LOW PROFILE

108C  
1028C  
1029LC  
RETAINER  
COVERS

1029C  
RETAINER  
COVER



## Mounting Detail

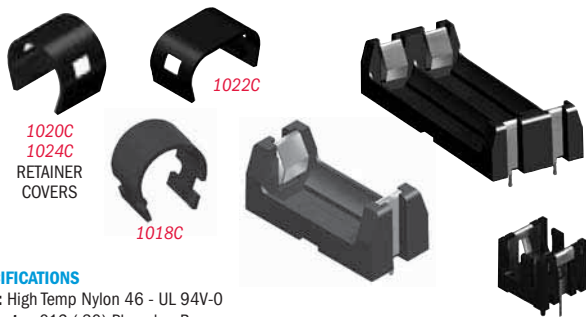


## SPECIFICATIONS

Base/Retainer Cover: PBT, UL 94V-0  
 Contacts: .012 (.30) Spring Steel, Tin-Nickel Plate  
 Operating Temp Range: -60°F to 290°F (-50°C to 145°C)

HOLDER	COVER	L	W	H (Ref. Dim)	A	B (MAX)	F	G	CELL SIZE	BATTERY CROSS REFERENCE
108	108C	1.160 (29.5)	.640 (16.3)	.633 (16.1)	1.030 (26.2)	1.360 (34.5)	.610 (15.5)	.279 (7.1)	"1/2 AA"	Energizer 544, Duracell PX28L, Kodak K28A & KS28, Panasonic CR14250, Saft LCP3, Maxell 4LR44, Sanyo CR14250SE
1028	1024C 1028C	2.160 (54.9)	.640 (16.3)	.633 (16.1)	2.030 (51.6)	2.360 (59.9)	1.610 (40.9)	.279 (7.1)	"AA"	Energizer, Duracell, Panasonic, Sanyo, Varta, Rayovac, Tadiran
1029	1029C 1029LC	1.500 (38.1)	.720 (18.3)	.712 (18.1)	1.375 (34.9)	1.700 (43.2)	.950 (24.1)	.32 (8.1)	"2/3 A"	Duracell DL2/3A, Kodak K123L, Panasonic CR123A, Saft 450SC & VR0450, Sanyo CR17335SE

## ULTRA LOW PROFILE



1020C  
1024C  
RETAINER  
COVERS

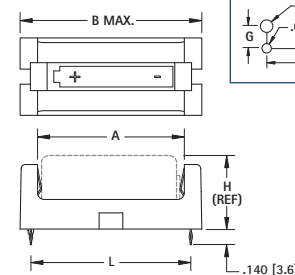
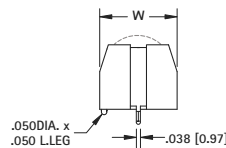
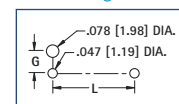
1018C

## SPECIFICATIONS

Base: High Temp Nylon 46 - UL 94V-0  
 Contacts: .012 (.30) Phosphor Bronze  
 Operating Temp Range: -60°F to 290°F (-50°C to 145°C)

"2/3A", "1/2AA", "AA", "AAA"

## Mounting Detail

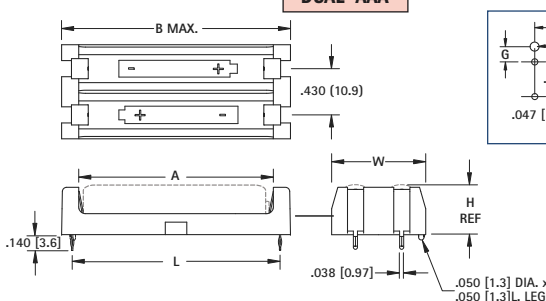


Finish: Tin-Nickel Plate

DWG. 1

DUAL "AAA"

## Mounting Detail



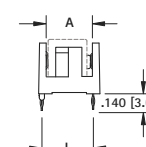
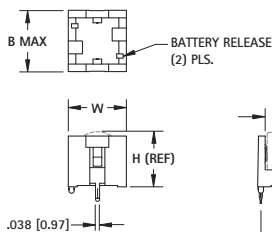
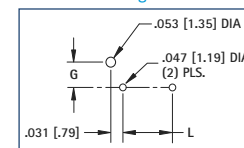
Finish: Tin-Nickel Plate

DWG. 2

HOLDER	COVER	DWG NO.	L	W	H (Ref. Dim)	A	B (MAX)	G	CELL SIZE	BATTERY CROSS REFERENCE
1019	1018C	1	1.487 (37.8)	.720 (18.3)	.682 (17.3)	1.365 (34.7)	1.690 (42.9)	.319 (8.1)	"2/3 A"	Duracell DL2/3A, Kodak K123L, Panasonic CR123A, Saft 450SC & VR0450, Sanyo CR17335SE
1017	1024C	1	1.156 (29.4)	.612 (15.5)	.603 (15.3)	1.030 (26.2)	1.360 (34.5)	.265 (6.7)	"1/2 AA"	Energizer 544, Duracell PX28L, Kodak K28A & KS28, Saft LCP3, Maxell 4LR44, Sanyo CR14250SE
1015	1024C	1	2.145 (54.5)	.612 (15.5)	.603 (15.3)	2.040 (51.8)	2.359 (59.9)	.265 (6.7)	"AA"	Energizer, Duracell, Panasonic, Sanyo, Varta, Rayovac, Tadiran
1021	1020C	1	1.933 (49.1)	.500 (12.7)	.445 (11.3)	1.810 (46.0)	2.140 (54.4)	.209 (5.3)	"AAA"	Energizer, Duracell, Panasonic, Sanyo, Varta, Rayovac, Tadiran
1023	1022C	2	1.933 (49.1)	.875 (22.2)	.445 (11.3)	1.810 (46.0)	2.140 (54.4)	.182 (4.6)	"AAA" (2)	Energizer, Duracell, Panasonic, Sanyo, Varta, Rayovac, Tadiran
503	—	3	.450 (11.4)	.540 (13.7)	.506 (12.9)	.430 (10.9)	.570 (14.5)	.240 (6.1)	"1/3 N"	Duracell DL1/3N, Sanyo K58L, Energizer CR1/3N

"1/3N"

## Mounting Detail



Finish: Tin Plate

DWG. 3

# SMT LOW PROFILE LITHIUM & ALKALINE CELL HOLDERS

"1/2 AA" - "AA" - "2/3 A"

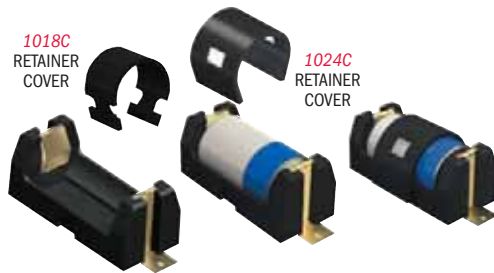
## FEATURES

- Low profile surface mount Holders for Cylindrical Lithium and Alkaline batteries.
- UL 94V-0 Heat resistant Nylon Housings well suited for reflow soldering.
- Designed for vacuum pick and place assembly.
- Gold-plated Phosphor Bronze contacts assure low contact resistance and are readily solderable.

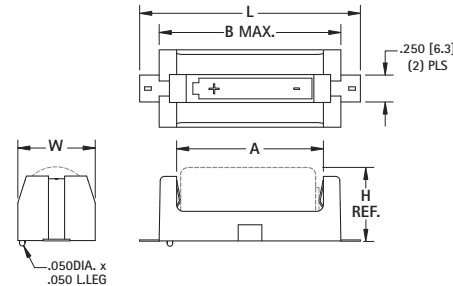
- Ideal for both lead free solder and traditional solder process.
- Battery installation and removal does not require tools.
- Securely holds battery in place.
- Polarity clearly marked for orientation.
- Operating temp range: -60°F to 290°F (-50°C to 145°C).

## APPLICATIONS

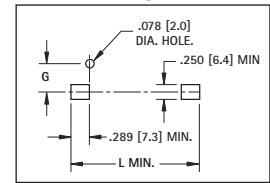
- Computer memory, power backup systems.
- Telecommunications
- Residential, industrial and commercial security systems
- PLC and industrial controls



## ULTRA LOW PROFILE



## Mounting Detail



## SPECIFICATIONS

Base: High Temp Nylon 46, UL 94V-0

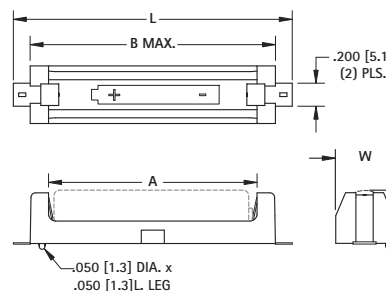
Contacts: .012 (.30) Phosphor Bronze, Gold Plate (Flash)

CAT. NO. BULK	CAT. NO. TAPE	COVER	L	W	H (REF)	A	B (MAX)	G	CELL SIZE	TAPE & REEL SPECS PACKED ON 13" REEL	BATTERY CROSS REFERENCE
1016	1016TR	1024C	1.723 (43.8)	.612 (15.5)	.603 (15.3)	1.030 (26.2)	1.360 (34.5)	.265 (6.7)	"1/2 AA"	56mm wide, 24mm pitch, 125 pcs/reel	Energizer 544, Duracell PX28L, Kodak K28A & KS28, Panasonic CR14250, Saft LCP3, Maxell 4LR44, Sanyo CR14250SE
1024	1024TR	1024C	2.711 (68.9)	.612 (15.5)	.603 (15.3)	2.040 (51.8)	2.359 (59.9)	.265 (6.7)	"AA"	88mm wide, 24mm pitch, 125 pcs/reel	Energizer, Duracell, Panasonic, Sanyo, Varta, Rayovac, Tadiran
1018	1018TR	1018C	2.053 (52.2)	.720 (18.3)	.682 (17.3)	1.365 (34.7)	1.690 (42.9)	.319 (8.1)	"2/3 A"	72mm wide, 32mm pitch, 100 pcs/reel	Duracell DL2/3A, Kodak K123L, Panasonic CR123A, Saft 450SC & VR0450, Sanyo CR17335SE

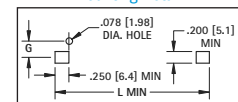
## ULTRA LOW PROFILE



## "AAA"



## Mounting Detail



## SPECIFICATIONS

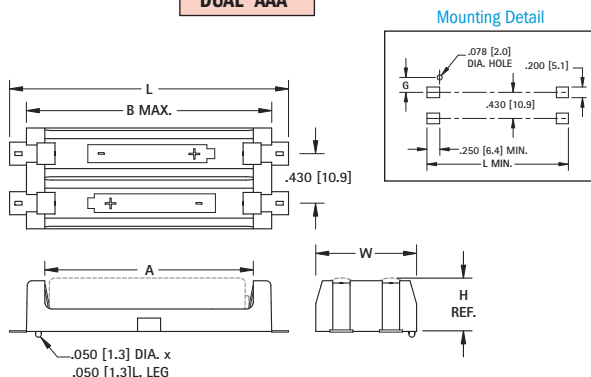
Base: High Temp Nylon 46, UL 94V-0

Contacts: .012 (.30) Phosphor Bronze, Gold Plate (Flash)

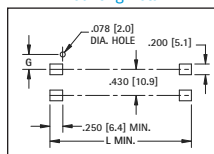
Operating Temp: -60°F to 290°F (-50°C to 145°C)

DWG 1

## DUAL "AAA"

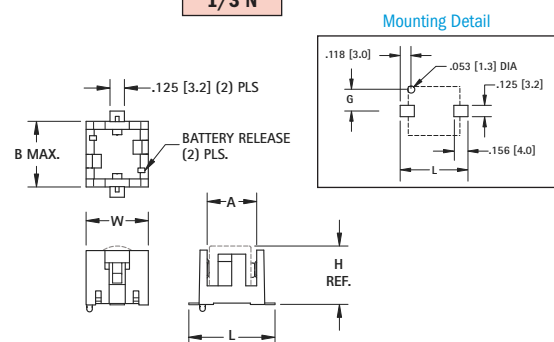


## Mounting Detail

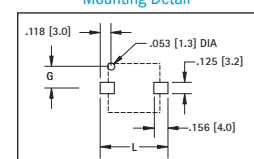


DWG 2

## 1/3 N



## Mounting Detail



DWG 3

CAT. NO. BULK	CAT. NO. TAPE	COVER	DWG NO.	L	W	H (REF)	A	B (MAX)	G	CELL SIZE	TAPE AND REEL SPECS PACKED ON 13" REEL	BATTERY CROSS REFERENCE
1020	1020TR	1020C	1	2.421 (61.5)	.500 (12.7)	.445 (11.3)	1.810 (46.0)	2.140 (54.4)	.209 (5.3)	"AAA"	88mm Wide, 24mm pitch, 200 pcs/reel	Energizer, Duracell, Panasonic, Sanyo, Varta, Rayovac, Tadiran
1022	1022TR	1022C	2	2.421 (61.5)	.875 (22.2)	.445 (11.3)	1.810 (46.0)	2.140 (54.4)	.182 (4.6)	"AAA" (2)	88mm Wide, 32mm pitch, 125 pcs/reel	Energizer, Duracell, Panasonic, Sanyo, Varta, Rayovac, Tadiran
498	498TR	—	3	.748 (19.0)	.540 (13.7)	.506 (12.9)	.430 (10.9)	.570 (14.5)	.240 (6.1)	"1/3 N"	44mm Wide, 24mm pitch, 125 pcs/reel	Duracell DL1/3N, Sanyo K58L, Energizer CR1/3N

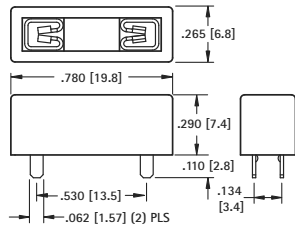
# THM "AUTO" BLADE FUSE HOLDERS

- Accepts Standard Auto Fuses or Low Profile Mini Fuses
- Low insertion force
- Fuse holder fully insulates clips to protect fuse from shorting



### 2 IN 1 FUSE HOLDER

**For Standard:** Littelfuse: ATO series/Bussmann ATC series.  
**For Low Profile:** Littelfuse: 891 series/  
 Bussmann ATM-LP series

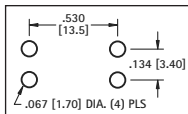


### SPECIFICATIONS

**Contacts:** .016 (.41) Brass, Tin-Nickel Plate  
**Insulator:** High Temp Nylon 46 - UL 94V-0  
**Current Rating:** 20 Amps @ 500V AC  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)

**CAT. NO. 3557-2**

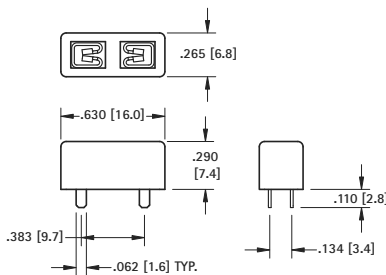
### Mounting Detail



- Holder assures proper spacing and reduces assembly time
- Thru hole PC mountable, maintains position during wave soldering

### MINI FUSE HOLDER

**For Mini:** Littelfuse: MIN series/  
 Bussmann ATM series or equivalent

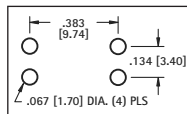


### SPECIFICATIONS

**Contacts:** .016 (.41) Brass, Tin-Nickel Plate  
**Insulator:** High Temp Nylon 46 - UL 94V-0  
**Current Rating:** 20 Amps @ 500V AC  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)

**CAT. NO. 3568**

### Mounting Detail



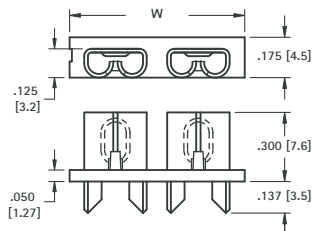
## STANDARD "AUTO" BLADE FUSE HOLDERS

**For Standard:** Littelfuse ATO series/Bussmann ATC series or equivalent

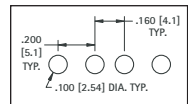


### VERTICAL FUSE ENTRY

- Thru hole PC mountable, maintains position during wave soldering
- Holder design prevents solder wicking
- Withstands the rigors of shock and vibration
- Holds fuse securely, even after multiple insertions

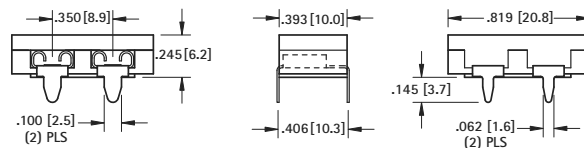


### Mounting Detail

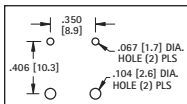


### HORIZONTAL FUSE ENTRY

- Designed for low height clearance applications
- Fuse will be inserted parallel to board
- Thru hole PC mountable, maintains position during wave soldering
- Fuse holder fully insulates clips to protect fuse from shorting
- Holder assures proper spacing and reduces assembly time
- Polarized legs assure proper orientation of clips onto board



### Mounting Detail



### SPECIFICATIONS

**Contacts:** .012 (.30) Brass, Nickel Plate  
**Insulator:** PBT, UL 94V-0  
**Current Rating:** 30 Amps @ 500V AC  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)

**CAT. NO. 3550-2**

### SPECIFICATIONS

**Contacts:** .016 (.41) Brass, Tin-Nickel Plate  
**Insulator:** Glass filled Nylon, UL 94V-0  
**Current Rating:** 30 Amps @ 500V AC  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)

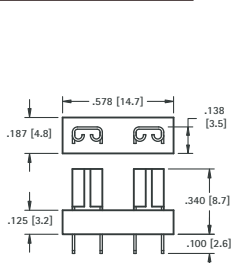
CAT. NO.	W
3522-2	.760 (19.3)
3522-3	1.125 (28.6)

## MINI "AUTO" BLADE FUSE HOLDER

**For Mini:** Littelfuse Mini series/Bussmann ATM series or equivalents



### VERTICAL FUSE ENTRY

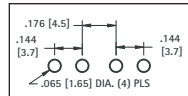


### SPECIFICATIONS

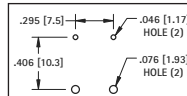
**Material:** .012 (.30) Brass, Tin Plate  
**Insulator:** Glass filled Nylon, UL 94V-0  
**Current Rating:** 30 Amps @ 500V AC  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)

**CAT. NO. 3544-2**

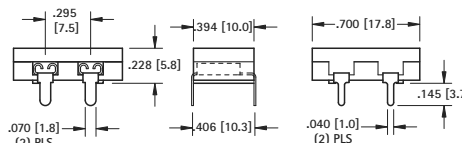
### Mounting Detail



### Mounting Detail



### HORIZONTAL FUSE ENTRY



### SPECIFICATIONS

**Contacts:** .012 (.30) Brass, Nickel Plate  
**Insulator:** PBT, UL 94V-0  
**Current Rating:** 30 Amps @ 500V AC  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)

**CAT. NO. 3549-2**

THM "AUTO" FUSE HOLDERS

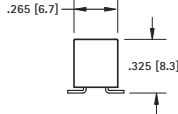
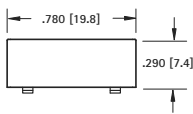
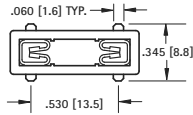
# SMT "AUTO" BLADE FUSE HOLDERS

- Compatible with most vacuum and mechanical pick and place assembly systems.
- Fully insulated clips to protect fuses against shorting.

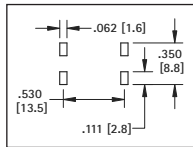
- One piece assembly reduces assembly time
- Withstands shock and vibration.

## 2 in 1 FUSE HOLDER

**For Standard:** Littelfuse: ATO series/  
Bussmann ATC series.  
**For Low Profile:** Littelfuse: 891 series/  
Bussmann ATM-LP series

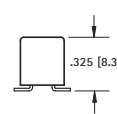
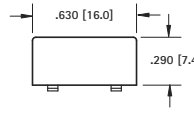
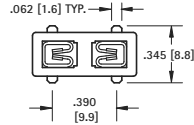


Mounting Detail

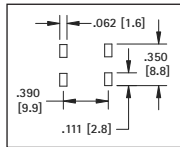


## MINI FUSE HOLDER

**For Mini:** Littelfuse: MIN series/  
Bussmann ATM series or equivalent



Mounting Detail



## SPECIFICATIONS

**Contacts:** .016 (.41) Brass, Tin-Nickel Plate  
**Insulator:** High Temperature Nylon 46, UL 94V-0  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)  
**Current Rating:** 20 Amps @ 500V AC

**CAT. NO. 3588 (Bulk)**

**CAT. NO. 3588TR (Tape & Reel)**

**Tape & Reel Spec's:** 32mm wide, 16mm pitch, 13 inch reel (500 pieces per reel)

## SPECIFICATIONS

**Contacts:** .016 (.41) Brass, Tin-Nickel Plate  
**Insulator:** High Temperature Nylon 46, UL 94V-0  
**Temperature Rating:** -58°F to +292°F (-50°C to +145°C)  
**Current Rating:** 20 Amps @ 500V AC

**CAT. NO. 3587 (Bulk)**

**CAT. NO. 3587TR (Tape & Reel)**

**Tape & Reel Spec's:** 32mm wide, 16mm pitch, 13 inch reel (750 pieces per reel)

# SMT "AUTO" BLADE FUSE CLIPS

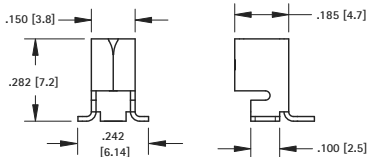
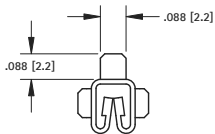
- Compatible with most vacuum and mechanical pick and place assembly systems.
- Three low profile designs - Thru board - Vertical entry - Horizontal entry.

- Accepts standard and mini blade automotive blade fuses.
- Clip with Matte-Tin plate is ideal for low temperature soldering applications, for other temperature sensitive components.

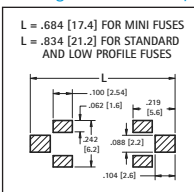
- Clips with Tin-Nickel plate are ideal for lead free, high temperature soldering applications.

## VERTICAL ENTRY

**For Mini:** Littelfuse: MIN series/Bussmann ATM series.  
**For Standard:** Littelfuse: ATO series/Bussmann ATC series.  
**For Low Profile:** Littelfuse: 891 series/Bussmann ATM-LP series



Mounting Detail For Two Clips



## SPECIFICATIONS

**Material:** .016 (.41) Brass, Tin-Nickel Plate  
**Current Rating:** 20 Amps @ 500V AC

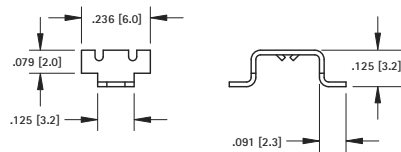
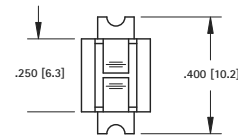
**CAT. NO. 3586 (Bulk)**

**CAT. NO. 3586TR (Tape & Reel)**

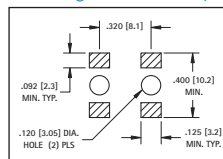
**Tape & Reel Spec's:** 16mm wide, 12mm pitch, 13 inch reel (750 pieces per reel)

## VERTICAL ENTRY

**For Mini:** Littelfuse: MIN series/Bussmann ATM series or equivalent



Mounting Detail For Two Clips



## SPECIFICATIONS

**Material:** .016 (.41) Brass, Matte Tin Plate  
**Current Rating:** 30 Amps @ 500V AC

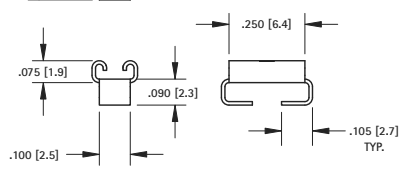
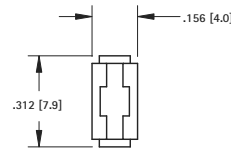
**CAT. NO. 3563 (Bulk)**

**CAT. NO. 3563TR (Tape & Reel)**

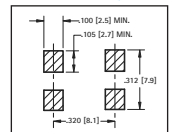
**Tape & Reel Spec's:** 24mm wide, 12mm pitch, 13 inch reel (1500 pieces per reel)

## HORIZONTAL ENTRY

**For Mini:** Littelfuse: MIN series/Bussmann ATM series or equivalent



Mounting Detail For Two Clips



## SPECIFICATIONS

**Material:** .012 (.30) Brass, Tin-Nickel Plate  
**Current Rating:** 15 Amps @ 500V AC

**CAT. NO. 3569 (Bulk)**

**CAT. NO. 3569TR (Tape & Reel)**

**Tape & Reel Spec's:** 24mm wide, 8mm pitch, 13 inch reel (2000 pieces per reel)

# PC QUICK-FIT MALE TERMINALS



Underwriters Laboratories, Inc.  
Recognized Component Program — UL File Number E201546

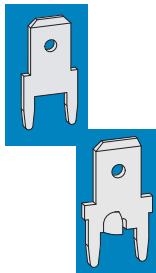
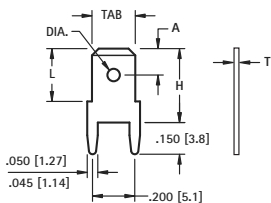
UL file number E201546 has been assigned to Keystone Electronics' "Quick-Fit" terminals (on this page) indicating recognition by Underwriters Laboratories Inc. that they are in compliance with their component program.

Underwriters Laboratories Inc. component program assures that "Quick-Fit" terminals meet the dimensional and performance requirements of the National Electrical Manufacturers Association specification number NEMA2-1982-(1988) and UL310.

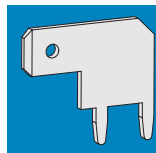
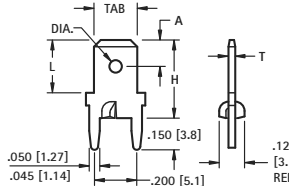


## .110 (2.8), .187 (4.8), .205 (5.2) MALE TABS

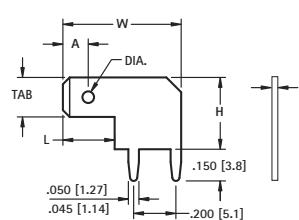
### VERTICAL



### STURDI-MOUNT



### HORIZONTAL



T	MTG. HOLES
.020 (.51)	.046 (1.2) Dia.
.032 (.81)	.052 (1.3) Dia.

**MATERIAL:**  
Brass, Matte Tin Plate

CAT. NO.	T	H	L	A	TAB
1285	.020 (.51)	.350 (8.9)	.250 (6.4)	.125 (3.2)	.187 (4.8)
1212	.032 (.81)	.350 (8.9)	.250 (6.4)		
1216	.032 (.81)	.710 (18.0)	.610 (15.5)		
1286	.020 (.51)	.350 (8.9)	.250 (6.4)	.125 (3.2)	.205 (5.2)
1213	.032 (.81)	.350 (8.9)	.250 (6.4)	(3.2)	
1287	.032 (.81)	.402 (10.2)	.312 (7.9)		
1289	.032 (.81)	.631 (16.0)	.540 (13.7)	.178 (4.5)	.250 (6.4)
1292	.032 (.81)	.764 (19.4)	.710 (18.0)		
1281	.032 (.81)	1.070 (27.2)	.312 (7.9)		

**MATERIAL:** Brass, Matte Tin Plate

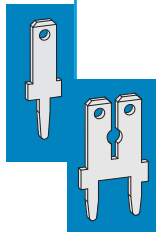
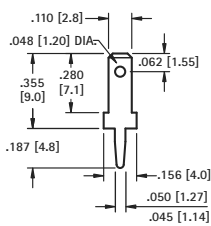
CAT. NO.	T	H	L	A	TAB
1285-ST	.020 (.51)	.350 (8.9)	.250 (6.4)	.125 (3.2)	.187 (4.8)
1212-ST	.032 (.81)				
1286-ST	.020 (.51)	.350 (8.9)	.250 (6.4)	.125 (3.2)	.205 (5.2)
1213-ST	.032 (.81)				
1287-ST	.032 (.81)	.402 (10.2)	.312 (7.9)	.178 (4.5)	.250 (6.4)
1289-ST	.032 (.81)	.631 (16.0)	.540 (13.7)	(4.5)	(6.4)

T	MTG. HOLES
.020 (.51)	.046 (1.2) Dia.
.032 (.81)	.052 (1.3) Dia.

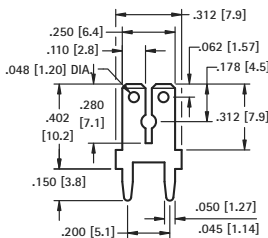
**MATERIAL:** Brass, Matte Tin Plate

CAT. NO.	T	W	H	L	A	TAB
4903	.020 (.51)	.525 (13.4)	.260 (6.6)	.280 (7.1)	.057 (1.5)	.110 (2.8)
4906	.032 (.81)					
4904	.020 (.51)	.560 (14.2)	.340 (8.7)	.245 (6.2)	.120 (3.1)	.187 (4.8)
4907	.032 (.81)					
4966	.032 (.81)	.590 (15.0)	.350 (8.9)	.312 (7.9)	.178 (4.5)	.250 (6.4)
1266	.032 (.81)	.789 (20.0)	(8.9)	(7.9)	(4.5)	(6.4)

### .187 (4.8) TAB

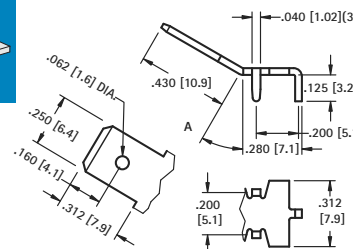


### DUAL .110 (2.8)/.250 (6.4) TAB



### .250 (6.4) TAB

#### STURDI-MOUNT



**MATERIAL:**  
Brass, Matte Tin Plate

CAT. NO.	MATL THICK	MTG. HOLE
1267	.020 (.51)	.046 (1.2) Dia.
1211	.032 (.81)	.052 (1.3) Dia.

**MATERIAL:**  
.032 (.81) Brass,  
Matte Tin Plate

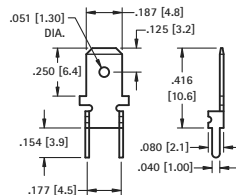
CAT. NO.	MTG. HOLES
1282	.052 (1.3) Dia.

**MATERIAL:**  
.032 (.81) Brass,  
Matte Tin Plate

CAT. NO.	ANGLE A	MTG. HOLES
4910	0°	.052 (1.3) Dia.
4908	30°	
4912	60°	

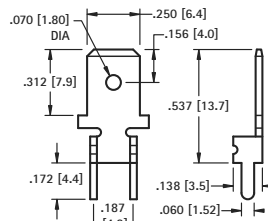
### .187 (4.8) TAB

#### STURDI-MOUNT



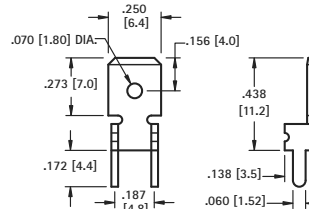
### .250 (6.4) TAB

#### STURDI-MOUNT



### .250 (6.4) TAB

#### STURDI-MOUNT



**MATERIAL:** .020 (.51) Brass,  
Matte Tin Plate

CAT. NO.	MTG. HOLES
4900	.043 (1.1) Dia.

**MATERIAL:** .032 (.81) Brass,  
Matte Tin Plate

CAT. NO.	MTG. HOLES
4901	.067 (1.7) Dia.

**MATERIAL:** .032 (.81) Brass,  
Matte Tin Plate

CAT. NO.	MTG. HOLES
4902	.067 (1.7) Dia.

PC QUICK-FIT TERMINALS



# PC QUICK-FIT FEMALE TERMINALS



**Underwriters Laboratories, Inc.**  
**Recognized Component Program — UL File Number E201546**

UL file number E201546 has been assigned to Keystone Electronics' "Quick-Fit" Female terminals (On this page) indicating recognition by Underwriters Laboratories Inc. that they are in compliance with their component program.

Underwriters Laboratories Inc. component program assures that "Quick-Fit" terminals meet the dimensional and performance requirements of the National Electrical Manufacturers Association specification number NEMA2-1982-(1988) and UL310.

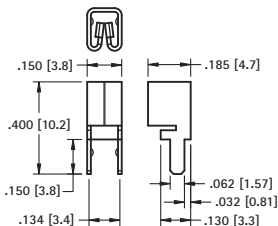


**FEMALE PC QUICK-FIT TERMINALS**

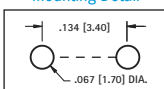


**ACCEPTS ALL TABS**

**VERTICAL OR HORIZONTAL ENTRY**



Mounting Detail

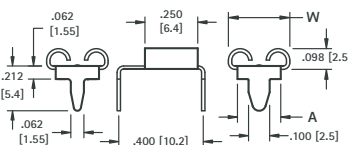


**MATERIAL:** .016 (.41) Brass, Tin-Nickel Plate

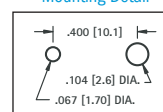
CAT. NO.	ACCEPTS TAB
<b>3557</b>	.110 (2.8) to .250 (6.4) x .020 (.51) to .032 (.81)

**ACCEPTS .187 (4.8), .205 (5.2), .250 (6.4) TAB**

**HORIZONTAL ENTRY**



Mounting Detail

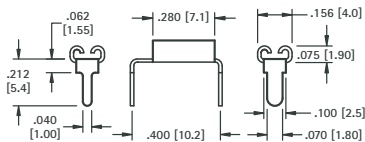


**MATERIAL:** Brass, Tin-Nickel Plate

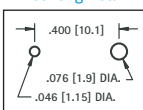
CAT. NO.	ACCEPTS TAB	"W"	"A"	MATERIAL THICKNESS
<b>3571</b>	.187 (4.8) x .020 (.51)	.222 (5.6)	.162 (4.1)	.012 (.30)
<b>3546</b>	.205 (5.2) x .020 (.51)	.240 (6.1)	.180 (4.6)	.012 (.30)
<b>3550</b>	.205 (5.2) x .032 (.81)	.240 (6.1)	.180 (4.6)	.012 (.30)
<b>3547</b>	.250 (6.4) x .032 (.81)	.291 (7.4)	.205 (5.2)	.016 (.40)

**ACCEPTS .110 (2.8) TAB**

**HORIZONTAL ENTRY**



Mounting Detail

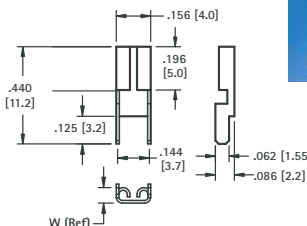


**MATERIAL:**  
.012 (.30) Brass, Tin-Nickel Plate

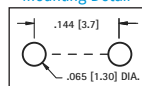
CAT. NO.	ACCEPTS TAB
<b>3545</b>	.110 (2.8) x .020 (.51)
<b>3549</b>	.110 (2.8) x .032 (.81)

**ACCEPTS .110 (2.8) TAB**

**VERTICAL ENTRY**



Mounting Detail

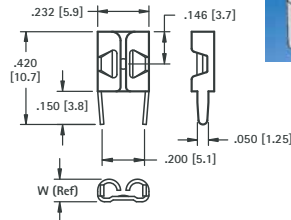


**MATERIAL:**  
.012 (.30) Brass, Tin-Nickel Plate

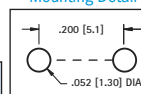
CAT. NO.	ACCEPTS TAB	W
<b>3534</b>	.110 (2.8) x .020 (.51)	.070 (1.80)
<b>3544</b>	.110 (2.8) x .032 (.81)	.075 (1.92)

**ACCEPTS .187 (4.8) TAB**

**VERTICAL ENTRY**



Mounting Detail

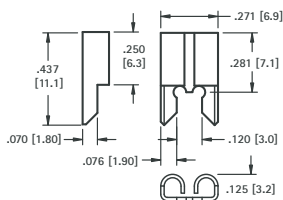


**MATERIAL:**  
.016 (.41) Brass, Tin-Nickel Plate

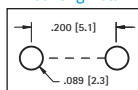
CAT. NO.	ACCEPTS TAB	W
<b>3548</b>	.187 (4.8) x .020 (.51)	.093 (2.36)
<b>3551</b>	.187 (4.8) x .032 (.81)	.102 (2.59)

**ACCEPTS .205 (5.2) TAB**

**VERTICAL ENTRY**



Mounting Detail

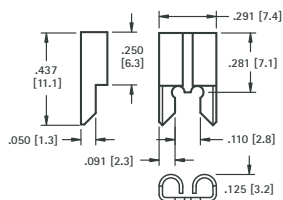


**MATERIAL:**  
.016 (.41) Brass, Tin-Nickel Plate

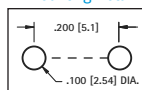
CAT. NO.	ACCEPTS TAB
<b>3525</b>	.205 (5.2) x .020 (.51)
<b>3575</b>	.205 (5.2) x .032 (.81)

**ACCEPTS .250 (6.4) TAB**

**VERTICAL ENTRY**



Mounting Detail

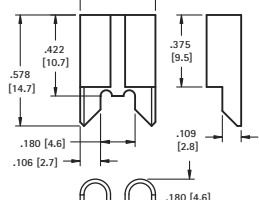


**MATERIAL:**  
.016 (.41) Brass, Tin-Nickel Plate

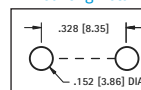
CAT. NO.	ACCEPTS TAB
<b>3528</b>	.250 (6.4) x .032 (.81)

**ACCEPTS .312 (7.9) TAB**

**OVER SIZED**



Mounting Detail



**MATERIAL:**  
.020 (.51) Copper, Tin-Nickel Plate

**CAT. NO. 3555**

# USB 3.0 PLUGS & SOCKETS

## ELECTRICAL CHARACTERISTICS:

**Rated Voltage:** 30V (RMS)  
**Contact Current Rating:** 1 Amp DC max.  
**Contact Resistance:** 15 mΩ max.  
**Insulation Resistance:** 1000 MΩ min.  
**Dielectric Withstanding Voltage:** 750V AC for 1 minute

## MECHANICAL CHARACTERISTICS:

**Operating Temperature:** -13°F (-25°C) to 176°F(+80°C)  
**Durability:** 1500 Cycles min.

## USB 3.0 DESIGN ADVANTAGES:

**Port Expansion:** Alleviates restriction of limited COM Ports and available IRQ's  
**Compatibility:** Backward compatible with USB 2.0 devices  
**Fast Data Transfer:** Up to 480 Gbps; 10 times faster than USB 2.0 devices and 200 times faster than serial ports.

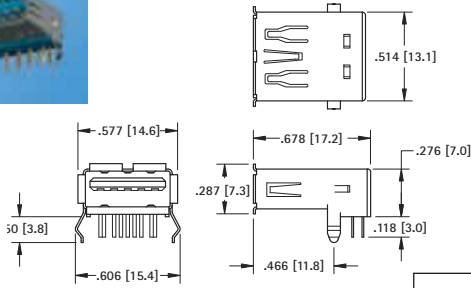
## USB 3.0 (SUPER SPEED) DEVICE APPLICATIONS:

- External hard drives
- High resolution web & video cameras
- Digital video cameras & still cameras
- Multi-channel audio interfaces
- External media such as Blu-Ray drives
- High-definition video content
- Multi-gigabyte mobile phones
- Portable media players

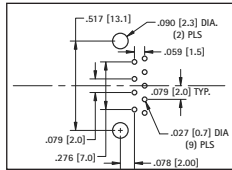
## USB TYPE A SOCKETS/PLUGS



**THRU-HOLE MOUNT SOCKET**



Mounting Detail



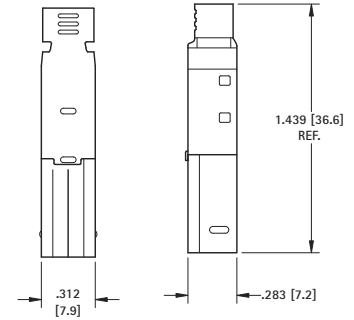
### SOCKET SPECIFICATIONS:

**Shell:** Steel, Nickel Plated  
**Insulator:** Thermoplastic, UL Rated 94V-0  
**Contacts:** Phosphor Bronze, Gold Flash over Nickel

**CAT. NO. 945**



**CABLE PLUG**



### PLUG SPECIFICATIONS:

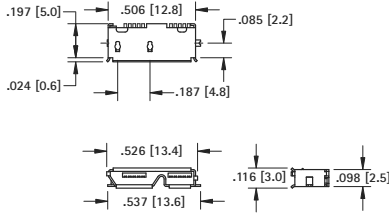
**Shell:** Steel, Nickel Plated  
**Insulator:** Thermoplastic, UL Rated 94V-0  
**Contacts:** Phosphor Bronze, Gold Flash over Nickel

**CAT. NO. 947**

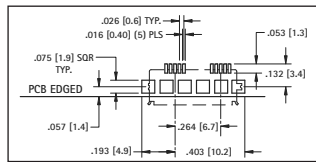
## MICRO-USB TYPE B SOCKETS/PLUGS



**SURFACE MOUNT SOCKET**



Mounting Detail



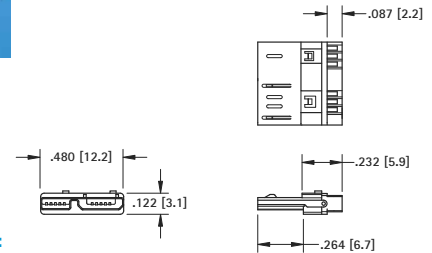
### SOCKET SPECIFICATIONS:

**Shell:** Steel, Nickel Plated  
**Insulator:** Thermoplastic, UL Rated 94V-0  
**Contacts:** Phosphor Bronze, Gold Flash over Nickel

**CAT. NO. 955**



**CABLE PLUG**

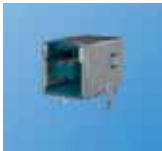


### PLUG SPECIFICATIONS:

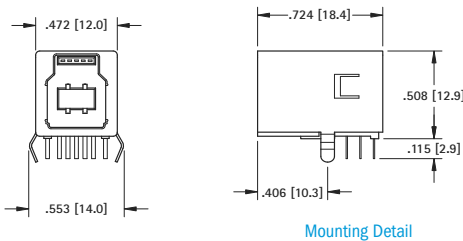
**Shell:** Steel, Nickel Plated  
**Insulator:** Thermoplastic, UL Rated 94V-0  
**Contacts:** Phosphor Bronze, Gold Flash over Nickel

**CAT. NO. 957**

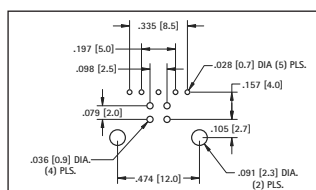
## USB TYPE B SOCKETS/PLUGS



**THRU-HOLE MOUNT SOCKET**



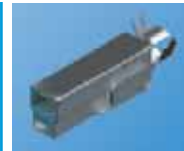
Mounting Detail



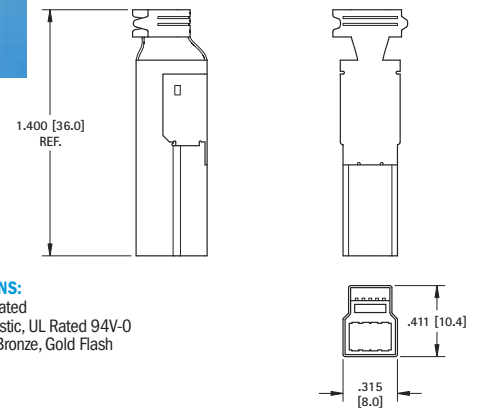
### SOCKET SPECIFICATIONS:

**Shell:** Phosphor Bronze, Nickel Plated  
**Insulator:** Thermoplastic, UL Rated 94V-0  
**Contacts:** Phosphor Bronze, Gold Flash over Nickel  
**Contact Area:** Gold Flash over Nickel  
**Solder Tails:** Tin over Nickel

**CAT. NO. 950**



**CABLE PLUG**



### PLUG SPECIFICATIONS:

**Shell:** Steel, Nickel Plated  
**Insulator:** Thermoplastic, UL Rated 94V-0  
**Contacts:** Phosphor Bronze, Gold Flash over Nickel

**CAT. NO. 952**

# USB 2.0 PLUGS & SOCKETS

## SOCKET SPECIFICATIONS:

**Shell:** Phosphor Bronze  
**Insulator:** Thermoplastic, UL Rated 94V-0  
**Contacts:** Phosphor Bronze  
**Contact Area:** Gold Flash over Nickel  
**Solder Trails:** Tin over Nickel

## PLUG SPECIFICATIONS:

**Shell:** Steel, Nickel Plate  
**Insulator:** Thermoplastic, Rated UL 94V-0  
**Contact:** Bronze, Gold Flash over Nickel

## ELECTRICAL CHARACTERISTICS

**Rated Voltage:** 30V (RMS)  
**Contact Current Rating:** 1 Amp DC max.  
**Contact Resistance:** 15 mΩ max.  
**Insulation Resistance:** 1000 MΩ min.  
**Dielectric Withstanding Voltage:** 750V AC for 1 minute

## MECHANICAL CHARACTERISTICS

**Operating Temperature:** -13°F (-25°C) to 176°F (+80°C)  
**Durability:** 1500 Cycles min.

## DEVICE APPLICATIONS

Ability to daisy chain more than one input device

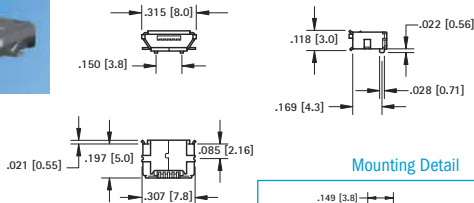
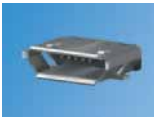
- Memory Sticks
- Mouse/Keyboards
- Printers/Scanners/Docking Stations
- MP3/Audio Devices
- Digital Video Cameras & Still Cameras
- Portable Media Players
- Gaming Headsets
- Smart Phones/PDA's

## MICRO-USB TYPE B SOCKETS/PLUGS

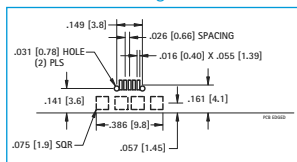
### SURFACE MOUNT SOCKET

• Ideal for Miniature applications

### CABLE PLUG

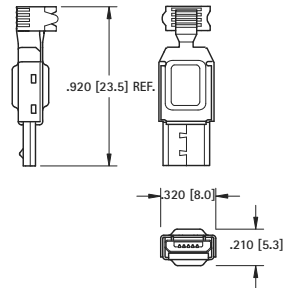


#### Mounting Detail



**CAT. NO. 940TR**

Tape & Reel Spec's: 24mm wide; 16mm pitch; 13 inch reel (800 pieces per reel)

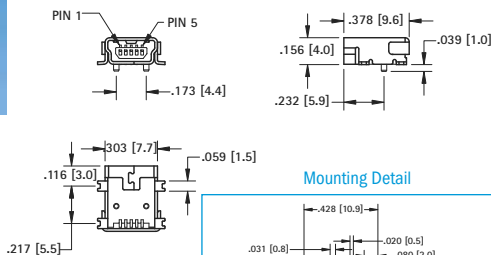


**CAT. NO. 941**

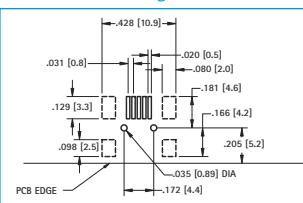
## MINI-USB TYPE B SOCKETS/PLUGS

### SURFACE MOUNT SOCKET

### CABLE PLUG

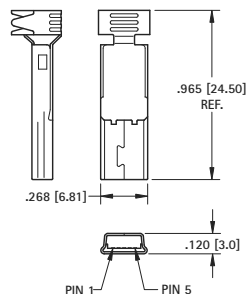


#### Mounting Detail

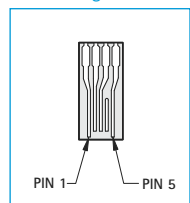


**CAT. NO. 934TR**

Tape & Reel Spec's: 24mm wide; 16mm pitch; 13 inch reel (800 pieces per reel)



#### Wiring Detail



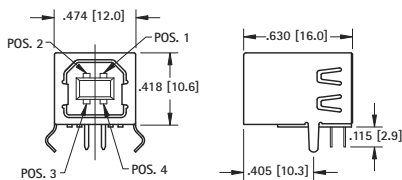
**CAT. NO. 935**

## USB TYPE B SOCKETS/PLUGS

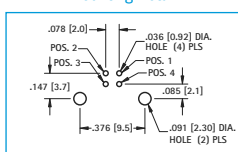
### THRU HOLE SOCKET

### SURFACE MOUNT SOCKET

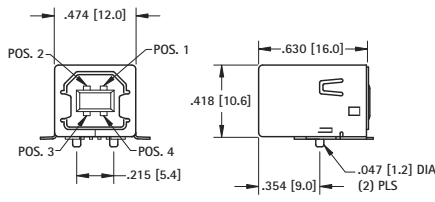
### CABLE PLUG



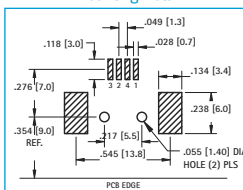
#### Mounting Detail



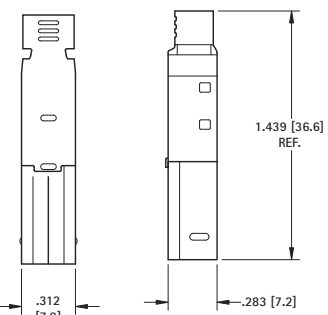
**CAT. NO. 924**



#### Mounting Detail



**CAT. NO. 933**



**CAT. NO. 926**

# PTFE INSULATED TERMINALS & PINS



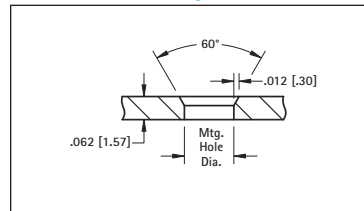
- Space saving design for high density packaging
- Outstanding Electrical, Mechanical, Thermal and Chemical properties
- Provides greater pull-out strength and high torque resistance
- Ideal for high quality terminal and connector applications
- Custom PTFE jacks manufactured to your specifications
- Other platings and bushing colors available upon request

## SPECIFICATIONS

Terminal: Brass, Tin Plate

Bushing: White PTFE **RoHS**

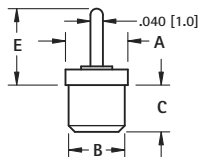
## Mounting Detail



## PINS



Top Mount

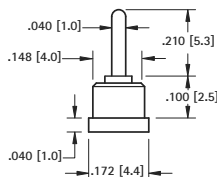


CAT. NO.	A	B	C	E	Mtg. Hole Dia.
11065	.125 (3.2)	.104 (2.6)	.089 (2.3)	.161 (4.1)	.091 (2.3)
11066	.125 (3.2)	.093 (2.4)	.100 (2.5)	.925 (23.5)	.086 (2.2)
11067	.172 (4.4)	.148 (3.8)	.100 (2.5)	.150 (3.8)	.136 (3.5)
11068	.172 (4.4)	.148 (3.8)	.075 (1.9)	.185 (4.7)	
11069	.172 (4.4)	.148 (3.8)	.050 (1.3)	.260 (6.6)	
11070	.172 (4.4)	.148 (3.8)	.075 (1.9)	.260 (6.6)	
11071	.172 (4.4)	.148 (3.8)	.100 (2.5)	.250 (6.4)	
11072	.172 (4.4)	.148 (3.8)	.160 (4.1)	.250 (6.4)	
11073	.172 (4.4)	.148 (3.8)	.100 (2.5)	.490 (12.4)	
11074	.172 (4.4)	.148 (3.8)	.100 (2.5)	.585 (14.9)	

## PIN



Bottom Mount



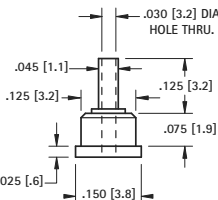
CAT. NO. 11075

Mtg. Hole  
.136 (3.5) Dia.

## HOLLOW PIN



Bottom Mount



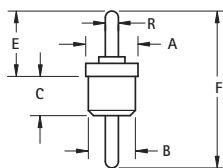
CAT. NO. 11076

Mtg. Hole  
.113 (2.9) Dia.

## PIN-TO-PIN



Feed-Thru



CAT. NO.	A	B	C	E	F	R	Mtg. Hole Dia.
11150	.093 (2.4)	.075 (1.9)	.100 (2.5)	.315 (8.0)	.550 (13.9)	.030 (7.6)	.069 (1.8)
11151	.125 (3.2)	.093 (2.4)	.100 (2.5)	.196 (5.0)	.453 (11.5)	.040 (1.0)	.086 (2.2)
11152	.125 (3.2)	.093 (2.4)	.100 (2.5)	.250 (6.4)	.515 (13.1)	.040 (1.0)	
11153	.125 (3.2)	.093 (2.4)	.100 (2.5)	.250 (6.4)	.443 (11.3)	.040 (1.0)	
11154	.150 (3.8)	.125 (3.2)	.100 (2.5)	.250 (6.4)	.443 (11.3)	.040 (1.0)	
11155	.172 (4.4)	.148 (3.8)	.100 (2.5)	.250 (6.4)	.515 (13.1)	.040 (1.0)	
11156	.172 (4.4)	.148 (3.8)	.110 (2.8)	.260 (6.6)	.535 (13.6)	.040 (1.0)	
11157	.172 (4.4)	.148 (3.8)	.250 (6.4)	.250 (6.4)	.710 (18.0)	.040 (1.0)	
11158	.172 (4.4)	.148 (3.8)	.250 (6.4)	.303 (7.7)	.719 (18.3)	.040 (1.0)	
11159	.172 (4.4)	.148 (3.8)	.160 (4.1)	.250 (6.4)	.725 (18.4)	.040 (1.0)	
11160	.172 (4.4)	.148 (3.8)	.170 (4.3)	.250 (6.4)	.630 (16.0)	.040 (1.0)	

## SOLDER TERMINALS



Top Mount

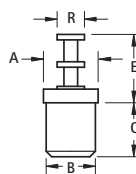


FIG. 1

## TURRET

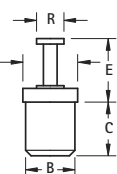


FIG. 2



Bottom Mount

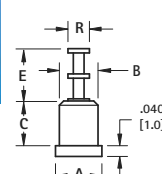


FIG. 3

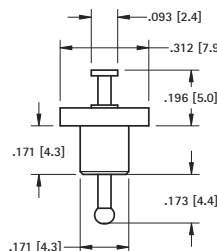
CAT. NO.	FIG.	A	B	C	E	R	Mtg. Hole Dia.
11300	1	.125 (3.2)	.093 (2.4)	.100 (2.5)	.210 (5.3)	.060 (1.5)	.086 (2.2)
11301	1	.125 (3.2)	.093 (2.4)	.080 (2.0)	.250 (6.4)	.080 (2.0)	.086 (2.2)
11302	1	.125 (3.2)	.093 (2.4)	.100 (2.5)	.250 (6.4)	.080 (2.0)	.086 (2.2)
11303	1	.172 (4.4)	.148 (3.8)	.140 (3.6)	.194 (4.9)	.093 (2.4)	.136 (3.5)
11304	1	.172 (4.4)	.148 (3.8)	.110 (2.8)	.250 (6.4)	.080 (2.0)	.136 (3.5)
11305	1	.172 (4.4)	.148 (3.8)	.125 (3.2)	.303 (7.7)	.080 (2.0)	.136 (3.5)
11306	1	.172 (4.4)	.148 (3.8)	.165 (4.2)	.290 (7.4)	.093 (2.4)	.136 (3.5)
11307	1	.172 (4.4)	.148 (3.8)	.250 (6.4)	.290 (7.4)	.093 (2.4)	.136 (3.5)
11308	1	.172 (4.4)	.148 (3.8)	.165 (4.2)	.437 (11.1)	.093 (2.4)	.136 (3.5)
11320	2	.172 (4.4)	.148 (3.8)	.100 (2.5)	.150 (3.8)	.080 (2.0)	.136 (3.5)
11321	2	.187 (4.8)	.165 (4.2)	.150 (3.8)	.370 (9.4)	.090 (2.3)	.152 (3.9)
11322*	2	.150 (3.8)	.125 (3.2)	.110 (2.8)	.180 (4.6)	.090 (2.3)	.113 (2.9)
11310	3	.125 (3.2)	.093 (2.4)	.100 (2.5)	.170 (4.3)	.060 (1.5)	.086 (2.2)
11311	3	.172 (4.4)	.148 (3.8)	.100 (2.5)	.210 (5.3)	.080 (2.0)	.136 (3.5)
11312	3	.187 (4.8)	.171 (4.3)	.155 (3.9)	.210 (5.3)	.080 (2.0)	.158 (4.0)

\*Hollow Turret

## TURRET-TO-TURRET



Feed-Thru

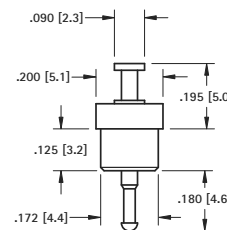


CAT. NO. 11250

Mtg. Hole  
.158 (4.0) Dia.



Feed-Thru



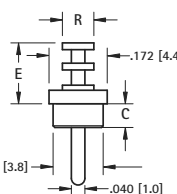
CAT. NO. 11251

Mtg. Hole  
.158 (4.0) Dia.

## TURRET-TO-PIN



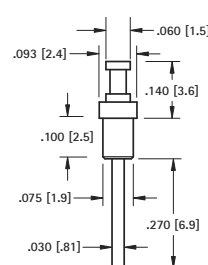
Feed-Thru



CAT. NO.	C	E	R	Mtg. Hole Dia.
11216	.100 (2.5)	.250 (6.4)	.080 (2.0)	.136 (3.5)
11217	.230 (5.8)	.375 (9.5)	.093 (2.4)	.136 (3.5)



Feed-Thru



CAT. NO. 11218

Mtg. Hole  
.066 (1.7) Dia.

# SPLIT-TYPE FORK TURRETS

**FIG. 1 FORK** Terminal: Brass, Tin Plate  
Bushing: White PTFE **RoHS**

**FIG. 2 FORK-TO-TURRET**

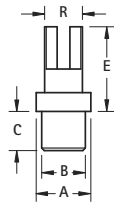


FIG. 1

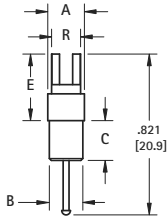
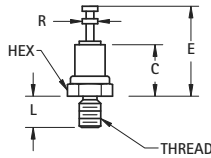


FIG. 2

CAT. NO.	FIG. NO.	A	B	C	E	R	Mtg. Hole Dia.
11100	1	.172 (4.4)	.148 (3.8)	.125 (3.2)	.250 (6.4)	.125 (3.2)	.136 (3.5)
11111	1	.187 (4.8)	.171 (4.3)	.150 (3.8)	.390 (9.9)	.148 (3.8)	.158 (4.0)
11112	1	.187 (4.8)	.171 (4.3)	.150 (3.8)	.453 (11.5)		
11113	1	.187 (4.8)	.171 (4.3)	.150 (3.8)	.328 (8.3)		
11114	1	.187 (4.8)	.171 (4.3)	.150 (3.8)	.390 (9.9)		
11115	1	.187 (4.8)	.171 (4.3)	.150 (3.8)	.453 (11.5)		
11116	2	.187 (4.8)	.171 (4.3)	.212 (5.4)	.390 (9.9)		

# THREADED TURRET TERMINALS

**FIG. 3** Terminal: Brass, Tin Plate  
Bushing: White PTFE **RoHS**



CAT. NO.	Thread	Hex	C	E	L	R
11350	2-56	.156 (3.9)	.206 (5.2)	.360 (9.1)	.125 (3.2)	.062 (1.6)
11351	4-40	.250 (6.4)	.270 (6.9)	.510 (12.9)	.250 (6.4)	.094 (2.4)
11352	6-32	.250 (6.4)	.270 (6.9)	.510 (12.9)	.375 (9.5)	.094 (2.4)

# THREADED FEED-THRU TERMINALS

**FIG. 4** Terminal: Brass, Tin Plate  
Bushing: White PTFE **RoHS**  
Body: Brass, Nickel Plate



CAT. NO.	E	L
11360	.355 (9.0)	.200 (5.1)
11361	.405 (10.3)	.250 (6.4)

**FIG. 5** Terminal: Brass, Tin Plate  
Bushing: White PTFE **RoHS**  
Body: Brass, Nickel Plate

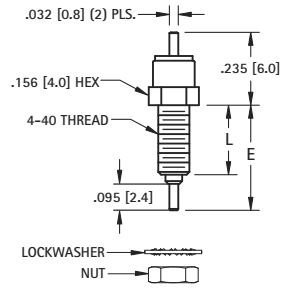


CAT. NO. 11362

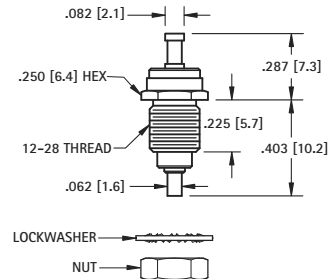
**FIG. 6** Terminal: Brass, Tin Plate  
Bushing: White PTFE **RoHS**  
Body: Brass, Nickel Plate



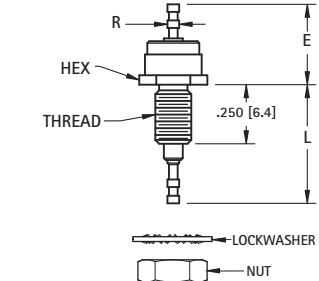
CAT. NO.	Thread	Hex	E	L	R
11363	10-32	.312 (7.9)	.425 (10.8)	.565 (14.3)	.062 (1.6)
11364	6-32	.188 (4.8)	.368 (9.3)	.510 (12.9)	.040 (1.0)



Nut and washer supplied unassembled



Nut and washer supplied unassembled



Nut and washer supplied unassembled

# TEST POINT JACKS

**FIG. 3** Terminal Jack: Beryllium Copper (QQ-C-533)  
Plating: Gold per MIL-G-45204, Type II  
Bushing: White PTFE **RoHS** (RoHS Compliant)  
Red or Black PTFE **RoHS** (Non-RoHS Compliant)



FIG. 3

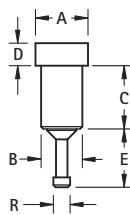


FIG. 4

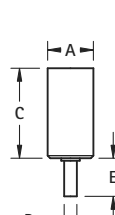
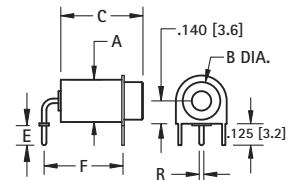


FIG. 5



RoHS	NON-RoHS		FIG.	A	B	C	D	E	R	Probe Dia. ± .001 (.03)	Probe Length
White	Red	Black									
11001	11001-R	11001-B	3	.142 (3.6)	.120 (3.0)	.244 (6.2)	.046 (1.2)	.120 (3.0)	.060 (1.5)	.040 (1.0)	.205 (5.2)
11002	11002-R	11002-B	3	.142 (3.6)	.120 (3.0)	.283 (7.2)	.046 (1.2)	.120 (3.0)	.060 (1.5)	.040 (1.0)	.245 (6.2)
11003	11003-R	11003-B	3	.172 (4.4)	.140 (3.6)	.142 (3.6)	.050 (1.3)	.060 (1.5)	.080 (2.0)	.040 (1.0)	.125 (3.2)
11004	11004-R	11004-B	3	.172 (4.4)	.148 (3.8)	.179 (4.5)	.046 (1.2)	.120 (3.0)	.060 (1.5)	.040 (1.0)	.140 (3.6)
11005	11005-R	11005-B	3	.218 (5.5)	.185 (4.7)	.301 (7.6)	.050 (1.3)	.105 (2.7)	.125 (3.2)	.080 (2.0)	.315 (8.0)
11006	11006-R	11006-B	3	.218 (5.5)	.185 (4.7)	.271 (6.9)	.046 (1.2)	.120 (3.0)	.074 (1.9)	.080 (2.0)	.195 (4.9)
11007	11007-R	11007-B	3	.218 (5.5)	.185 (4.7)	.271 (6.9)	.046 (1.2)	.120 (3.0)	.074 (1.9)	.090 (2.3)	.195 (4.9)
11008	11008-R	11008-B	3	.218 (5.5)	.185 (4.7)	.301 (7.6)	.046 (1.2)	.120 (3.0)	.074 (1.9)	.080 (2.0)	.225 (5.7)
11009	11009-R	11009-B	3	.218 (5.5)	.185 (4.7)	.400 (10.2)	.050 (1.3)	.187 (4.8)	.074 (1.9)	.080 (2.0)	.280 (7.1)
11010	11010-R	11010-B	3	.218 (5.5)	.185 (4.7)	.271 (6.9)	.046 (1.2)	.136 (3.5)	.074 (1.9)	.080 (2.0)	.340 (8.6)
11011	11011-R	11011-B	4	.218 (5.5)	-	.430 (10.9)	-	.150 (3.8)	.050 (1.3)	.080 (2.0)	.200 (5.1)
11012	11012-R	11012-B	4	.218 (5.5)	-	.500 (12.7)	-	.150 (3.8)	.050 (1.3)	.080 (2.0)	.280 (7.1)
11013	11013-R	11013-B	5	.218 (5.5)	.187 (4.8)	.689 (17.5)	.500 (12.7)	.125 (3.2)	.050 (1.3)	.080 (2.0)	.500 (12.7)
11014	11014-R	11014-B	5	.218 (5.5)	.187 (4.8)	.378 (9.6)	.400 (10.2)	.125 (3.2)	.050 (1.3)	.080 (2.0)	.225 (5.7)
11015	11015-R	11015-B	5	.218 (5.5)	.187 (4.8)	.378 (9.6)	.400 (10.2)	.187 (4.7)	.035 (.89)	.080 (2.0)	.250 (6.4)
11016	11016-R	11016-B	5	.218 (5.5)	.187 (4.8)	.378 (9.6)	.500 (12.7)	.125 (3.2)	.050 (1.3)	.080 (2.0)	.250 (6.4)

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