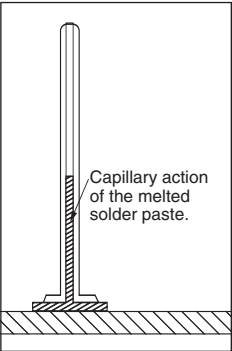




Zierick's surface mount terminals feature internal holes or slots at the base which foster a capillary solder wicking action for improved post reflow accuracy and joint strength.



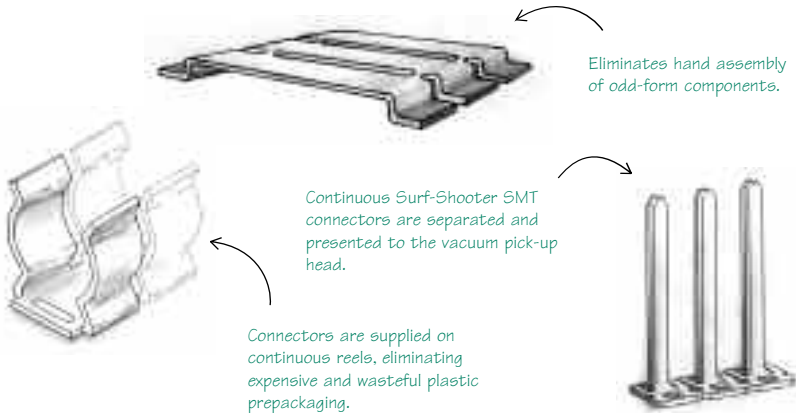
As the industry's first surface-mountable connectors to be supplied on a continuous reel, Surf-Shooter SMT connectors are used as part of Zierick's patented Surf-Shooter SMT (Surface Mount Technology) Assembly System to simplify surface mount assembly. The complete Surf-Shooter SMT system feeds, separates, and presents the continuous format, surface-mountable connectors to the vacuum pick-up head of a new or existing placement system.

The continuous format design of the stamped Surf-Shooter SMT connectors eliminates the need for prepackaging that surface mount connectors typically come in. Even odd-form components can be fed to the placement system on continuous reels, eliminating hand assembly.

For easy integration into customer assembly lines, the Surf-Shooter SMT Assembly System operates with virtually any standard placement system. Each Surf-Shooter SMT system consists of a feeder system and continuous Zierick connectors. Zierick will supply or modify feeders for virtually any SMT placement system.

- Zierick's Surf-Shooter SMT connectors are the first surface-mountable connectors to be supplied on a continuous reel, for easy feeding to the vacuum pick-up head of a placement system.

- Surf-Shooter SMT connectors are used within Zierick's Surf-Shooter SMT Assembly System to feed, separate, and present the continuous format connectors to the pick-up head.
- Surf-Shooter SMT connectors eliminate plastic pre-packaging due to their continuous format design.
- The Surf-Shooter SMT Assembly System operates with virtually any standard flexible placement system.
- Available in 16mm and 24mm tape format.



Surf-Shooter SMT pins and posts are specially designed for high-reliability PCB interconnection applications. They are available in 0.025" square (0.64mm), 0.040" (1.02mm), 0.043" (1.09mm), 0.060" (1.52mm), and 0.080" (2.03mm) diameters.

To increase interconnection reliability, they utilize the capillary action of reflowing solder to improve solder joint strength. Pull-force tests reveal that a post with proper capillary action has much higher retention to the printed circuit board than a post without the capillary action feature.

The higher retention force is attributable to two conditions:

- 1) The first is the very thin layer of solder between the base of the pin and the solder pad. Solder is a weak alloy with a low yield stress. A thicker layer of solder will fail before a thinner layer will. Solder behavior is analogous to that of adhesive: undeniably a thinner layer of adhesive bonds more strongly than a thicker layer.
- 2) As the solder paste reflows, flux and other active ingredients in the solder cause outgassing. These gasses get



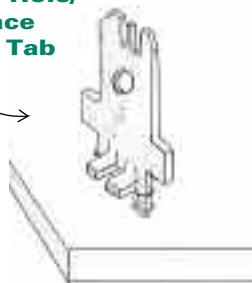
trapped under a relatively large surface like the base of the pin. The trapped gasses create voids in the solder that are clearly visible when the pin is pulled off or the solder joint is cross-sectioned. Pins that employ capillary action have fewer and smaller voids because the capillary tube provides a way for gasses to escape. Cracks in solder joints develop from such voids during thermal cycling. Field evaluations show that posts with enhanced capillary action are more resistant to the effects of thermal cycling.

## Application Design Concepts

### New design requirements?

... submit your project information online at [www.zierick.com/stampquote.htm](http://www.zierick.com/stampquote.htm)

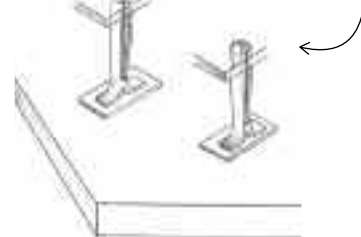
**Combination Through-Hole/ Surface Mount Tab**



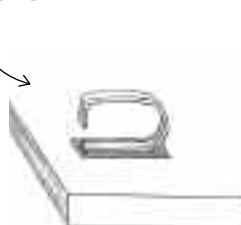
**Surface Mount Screw Terminal**



**Solderless Stacking Pins**



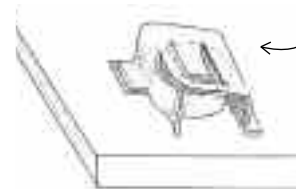
**PCB Stacking Terminal with Strain Relief**



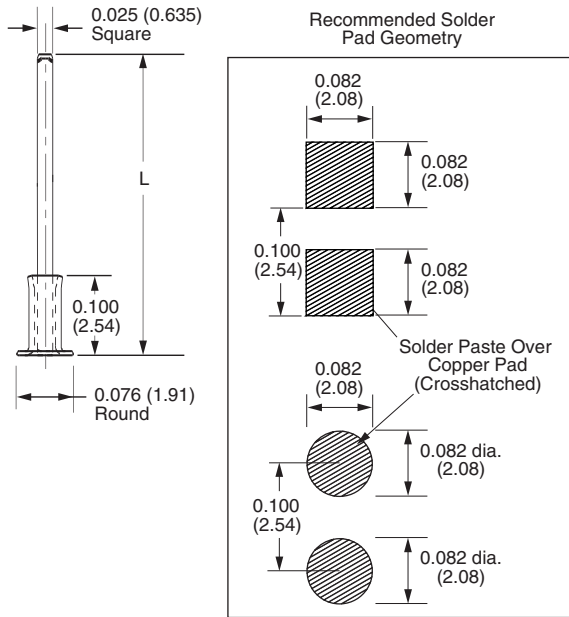
**Variable Height Stacking Pin**



**Surface Mount Battery Contact**



The above illustrations are design concepts only.



### PART NUMBERING SYSTEM

<b>A</b>	<b>1</b>					
<b>Product Code</b>	<b>Pin Length Dim (L)</b>			<b>Finish Specification</b>		
	250 - 0.250" (6.35mm) 375 - 0.375" (9.53mm) 500 - 0.500" (12.70mm) 625 - 0.625" (15.88mm) 750 - 0.750" (19.05mm) SPL - Special Length			0 - 0.000150"(0.0038mm) Min Matt Tin over 0.000100" (0.0025mm) Min Copper  19 - 0.000030"(0.00076mm) Min Gold over 0.000050" (0.0013mm) Min Nickel  SP - Special Finish		

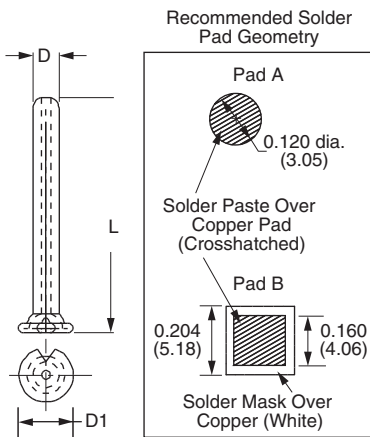
**EXAMPLE**

<b>A</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>-</b>	<b>0</b>	
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A1 - Product Code, 250 - 0.250" (6.35mm) Pin Length

**Feeder System** - Surf-Shooter SMT - Loose Piece (Pin Shooter)

U.S. Patent No. 5,816,868 and international patents

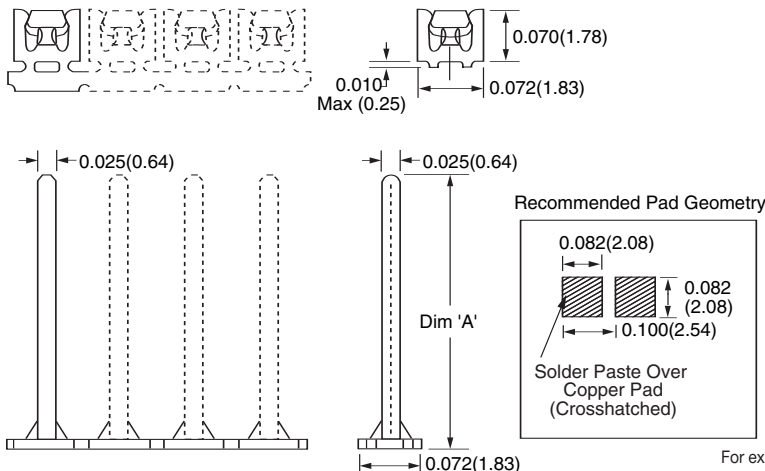


Part Number	Description	L	D	D1	Pad
1242-375-SP	0.043" (1.09mm) Dia x 0.390" (9.91mm) long Brass SMT post; 0.00005" (0.0013mm) Min Gold over 0.000100" (0.0025mm) Nickel	0.390" (9.91mm)	0.043" (1.09mm)	0.095" (2.41mm)	A
1248-580	0.060" (1.529mm) Dia x 0.580" (14.73mm) long Brass SMT post; 100% Tin over Copper	0.580" (14.73mm)	0.060" (1.52mm)	0.100" (2.54mm)	A
1213-680	0.080" (2.03mm) Dia x 0.680" (17.27mm) long Brass SMT post; 100% Tin over Copper	0.680" (17.27mm)	0.080" (2.03mm)	0.145" (3.56mm)	B

**Feeder System** Surf-Shooter SMT - Loose Piece (Pin Shooter)

U.S. Patent No. 5,816,868 and other U.S. and international patents

## 0.025" (0.635mm) Surface Mount Post



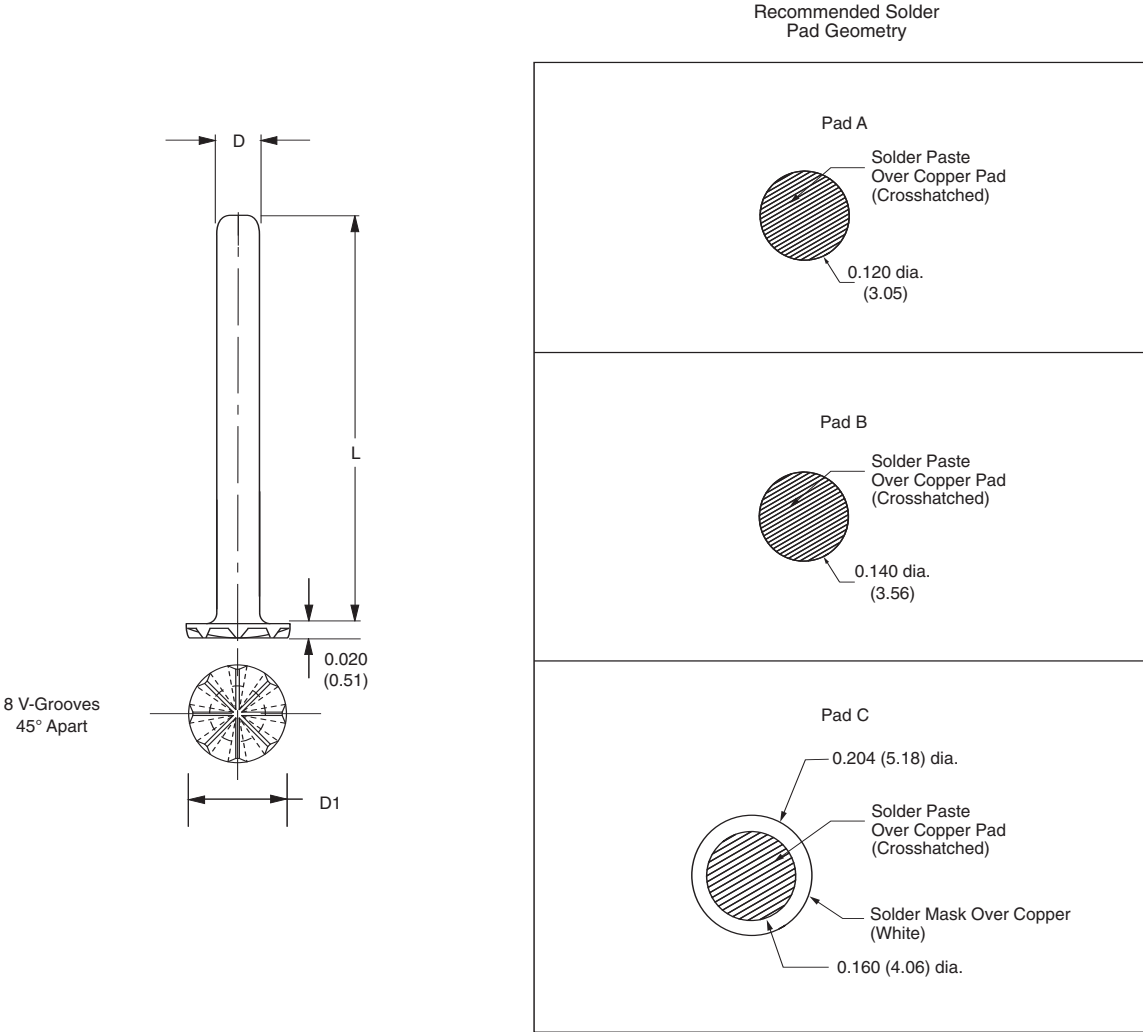
<b>Loose Part No.</b>	1216	1222
<b>Reeled Part No.</b>	6216	6222
<b>Dim 'A'</b>	0.375" (9.53mm)	0.250" (6.35mm)
<b>Material Thickness/ Type</b>	0.012" (0.30mm)	Brass
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	Surf-Shooter SMT - Continuous Strip	

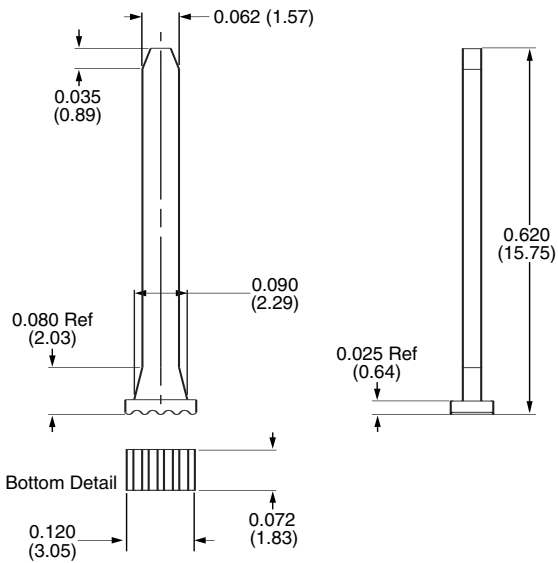
U.S. Patent No. 5,632,629 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

SOLID SMT PINS					
Part Number	Description	L*	D	D1	Pad
A2-680	0.040" (1.02mm) Dia x 0.680" (17.27mm) long Copper solid SMT post; 100% Tin over Copper	0.680" (17.27mm)	0.040" (1.02mm)	0.095"±0.005" (2.41mm ±0.127mm)	A
A3-680	0.060" (1.52mm) Dia x 0.680" (17.27mm) long Copper solid SMT post; 100% Tin over Copper	0.680" (17.27mm)	0.060" (1.52mm)	0.120"±0.005" (3.05mm ±0.127mm)	B
A4-680	0.080" (2.03mm) Dia x 0.680" (17.27mm) long Copper solid SMT post; 100% Tin over Copper	0.680" (17.27mm)	0.080" (2.03mm)	0.140"±0.010" (3.56mm ±0.254mm)	C

**Feeder System** Surf-Shooter SMT – Loose Piece (Pin Shooter)

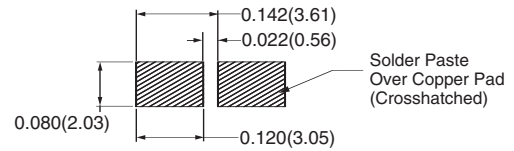
\* Additional Pin Lengths available upon request. Please consult factory.



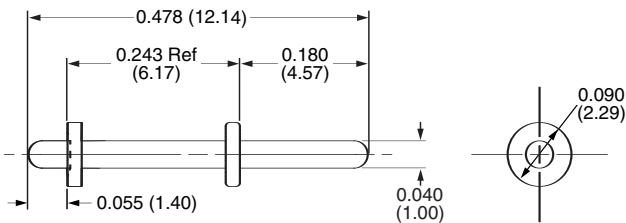


<b>Loose Part No.</b>	1276
<b>Material Thickness/Type</b>	0.032" (0.81mm) Brass
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT- Loose Pin (Pin Shooter)

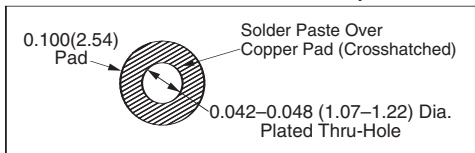
Recommended Pad Geometry



## SMT Shoulder Pin

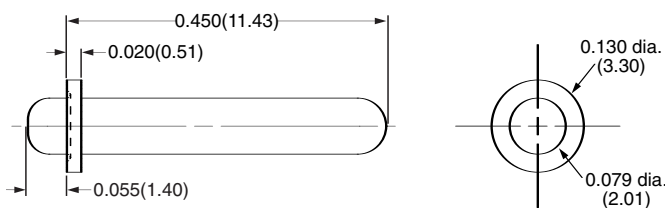


Recommended Hole and Pad Layout

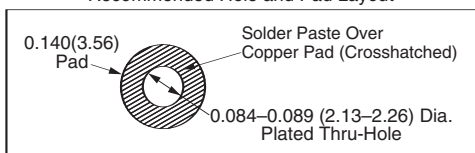


<b>Loose Part No.</b>	D2-480-A
<b>Material Type</b>	Copper
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT- Loose Piece (Pin Shooter)

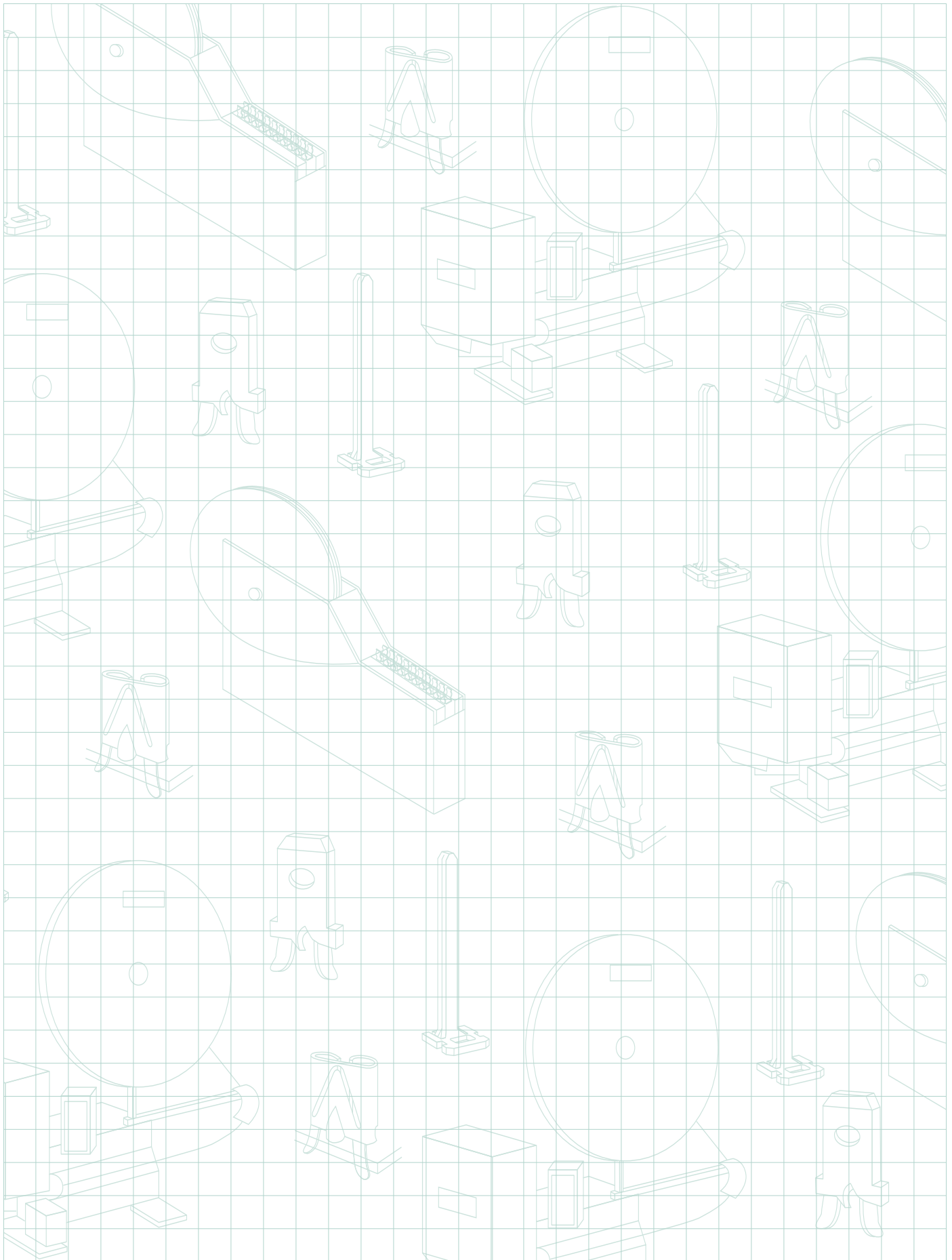
## SMT Shoulder Pin

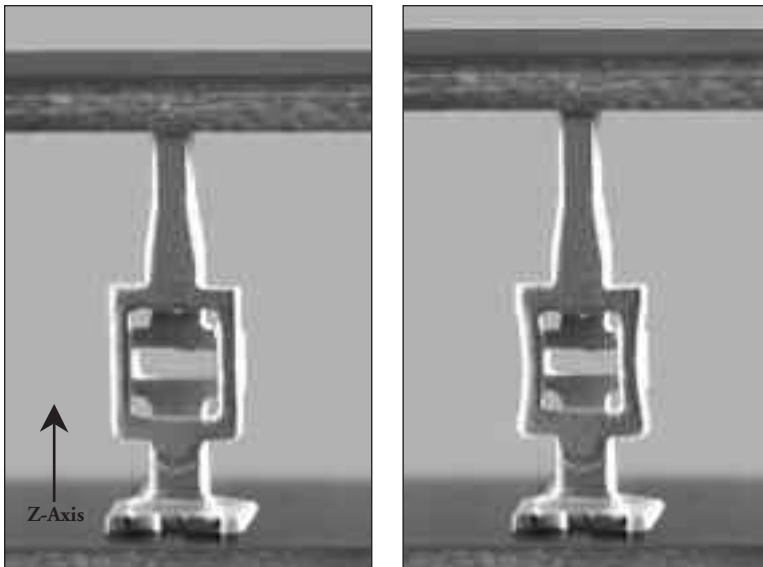


Recommended Hole and Pad Layout



<b>Loose Part No.</b>	A-2056
<b>Material Type</b>	Copper
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT- Loose Piece (Pin Shooter)





Note: Degree of physical change to pin has been enhanced and exaggerated for demonstration purposes.

A primary benefit of the SMT Z-Axis Compliant Pin is its ability to hold a strong, accurate connection under extreme temperature changes. Its Z-Axis (axial) compliancy is designed to compensate for thermal expansion and contraction.

As temperatures cause boards to shift, the pin compensates for separation, and holds a stronger, more dependable connection. The pin's unique, flexible center-frame design actually expands or contracts in response to changes in board orientation.

Zierick integrates the automated manufacturing process with the reliability and quality of precision placement in the SMT Z-Axis Compliant Pin.

Providing Z-Axis (axial) compliancy, the Z-Axis pins compensate for thermal expansion and contraction, creating a more consistently dependable connection.

Uniquely designed for production in a continuous reel format, the SMT Z-Axis Compliant Pin optimizes automation, and with the Surf-Shooter SMT Feeder System, allows precision placement while using existing pick and place equipment. Z-Axis Compliant Pins can be placed on 0.100" x 0.120" on-center applications, making them ideal for parallel stacking applications.

Zierick designed the Z-Axis Compliant Pin to take advantage of capillary action, a process in which a more complete, more stable solder connection is established, providing superior joint strength and more reliably perpendicular pins.

The Z-Axis pins are manufactured using 0.012" (0.30mm) thick copper, and feature a 100% tin over copper finish.

### Benefits

Zierick's SMT Z-Axis Compliant Pin:

#### Increases PCB design flexibility.

- Compensates for thermal expansion and contraction through axial compliancy
- Consumes minimal real estate

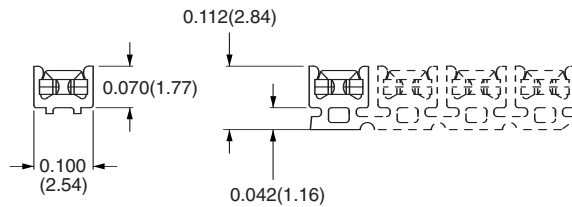
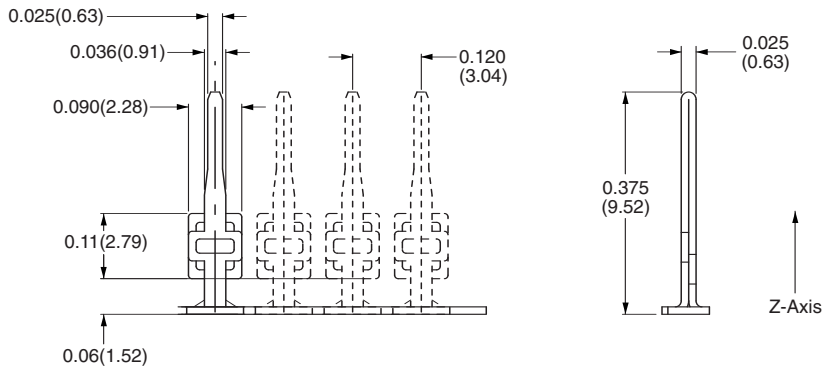
#### Optimizes automation.

- Uses existing placement equipment with a Zierick Surf-Shooter SMT Feeder
- Enables the random placement of individual pins
- Allows for pin placement on 0.100" x 0.120" on-center applications

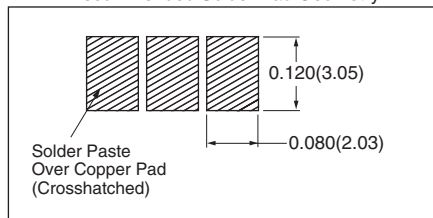
#### Allows for a better connection.

- Maximizes solder joint strength through utilization of capillary action
- Ensures that pins are reliably perpendicular
- Enhances geographical stability with high locational tolerances

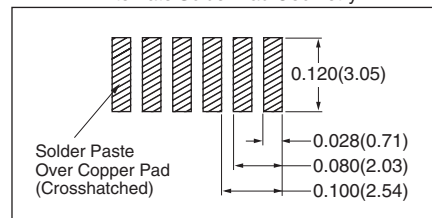
<b>Loose Piece Part No.</b>	1264
<b>Reeled Part No.</b>	6264
<b>Material Thickness/Type</b>	0.012" (0.30mm) Copper
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT Continuous Strip Feeder



Recommended Solder Pad Geometry



Alternate Solder Pad Geometry





## SMT Tabs / Quick Disconnect Terminals



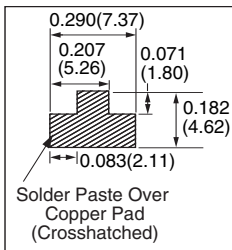
Zierick's family of Surface Mount Quick Disconnect Tabs are now easier than ever to use. They are supplied on reels for easy application by our Surf-Shooter SMT Feeders, in loose piece for lower volumes, or in Surface Mount Tape Pockets.

Our Surface Mount Quick Disconnect Tabs in Tape Pockets are designed for easy pick-up by your existing placement system in two ways: we can offer Tape Pockets for Gripper pick-up (TG) or for Nozzle Pick-Up (TZ). For other requirements, please consult the factory.

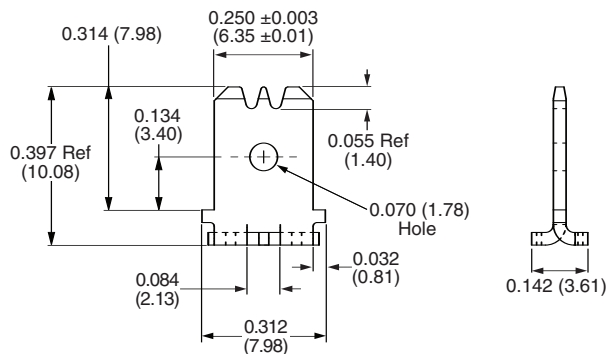
## SMT 0.250" (6.35mm) Tabs / Quick Disconnect Terminals

Mating receptacle first withdrawal force may not exceed the UL310 spec. of 18 lbs. max. A 2oz. PCB Copper trace recommended.

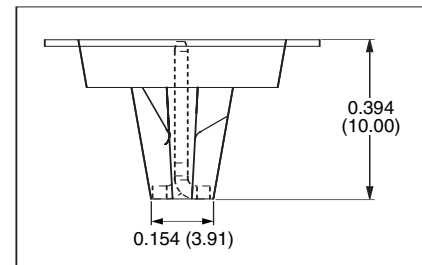
Recommended Pad Geometry



<b>Loose Part No.</b>	1195
<b>Taped Part No.</b>	1195TG
<b>Material Thickness/ Type</b>	0.032" (0.81mm) Brass
<b>Standard Finish</b>	Loose: 100% Tin over Copper
<b>Feeder System</b>	TG: In Tape for Gripper Pick-Up Standard 24mm Tape Feeder



Part In Tape

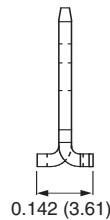
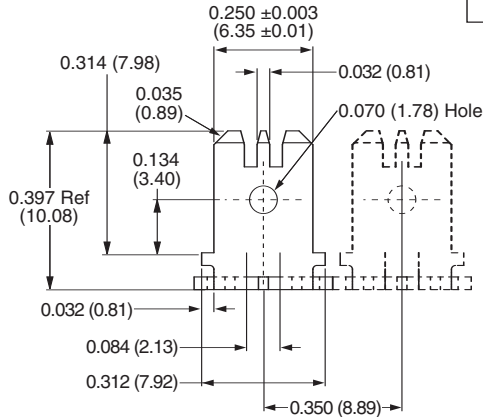
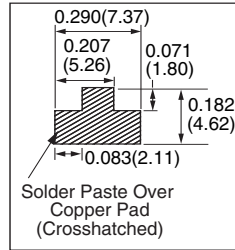


U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

## SMT 0.250" (6.35mm) Tabs / Quick Disconnect Terminals

Mating receptacle first withdrawal force may not exceed the UL310 spec. of 18 lbs. max. A 2oz. PCB Copper trace recommended.

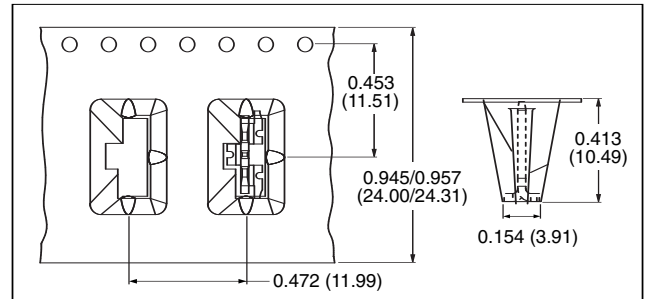
Recommended Pad Geometry



<b>Taped Part No.</b>	6195TZ
<b>Strip Part No.</b>	6195
<b>Material Thickness/ Type</b>	0.032" (0.81mm) Brass
<b>Standard Finish</b>	Loose: 100% Tin Reeled: 100% Tin
<b>Feeder System</b>	TZ: In Tape for Standard 24

**PN 6195TZ, 6195 OBSOLETE**  
Replaced by  
**1285TZ and 6285**

Part In Tape

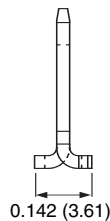
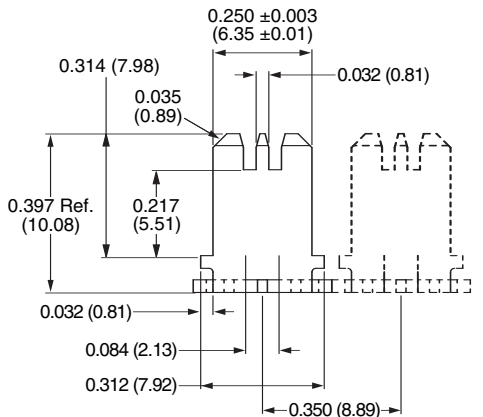
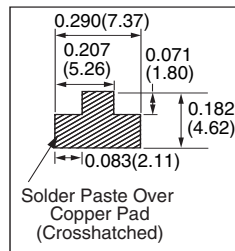


U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

## SMT 0.250" (6.35mm) Tabs / Quick Disconnect Terminals

Mating receptacle first withdrawal force may not exceed the UL310 spec. of 18 lbs. max. A 2oz. PCB Copper trace recommended.

Recommended Pad Geometry



<b>Loose Part No.</b>	1244
<b>Strip Part No.</b>	6244
<b>Material Thickness/ Type</b>	0.032" (0.81mm) Brass
<b>Standard Finish</b>	Loose: 100% Tin over Copper Reeled: 100% Tin over Copper
<b>Feeder System</b>	Surf Shooter SMT - Continuous Strip

**PN 1244 OBSOLETE**

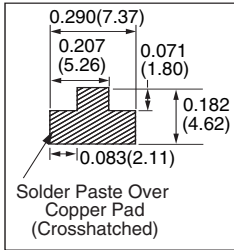
Consult factory for pricing and availability of Loose Piece Parts.

U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

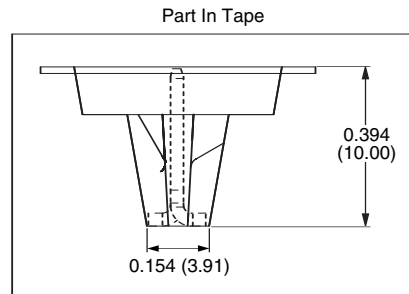
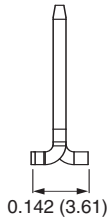
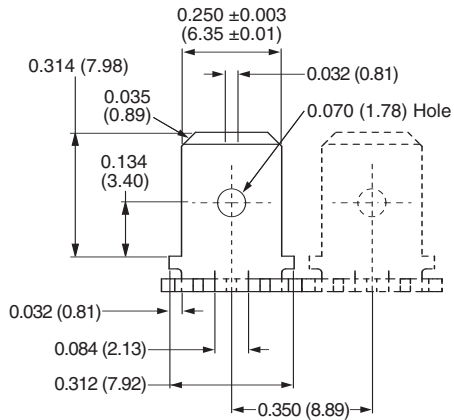
## SMT 0.250" (6.35mm) Tabs / Quick Disconnect Terminals

Mating receptacle first withdrawal force may not exceed the UL310 spec. of 18 lbs. max. A 2oz. PCB Copper trace recommended.

Recommended Pad Geometry



Loose	Strip	Taped
1281	6281	1281TG
<b>Material Thickness/Type</b>		
PN 1281, 6281, 1281TG <b>OBSOLETE</b>		
<b>Standard Finish</b>		
Replaced by PN 1195, 6285		
<b>Feeder System</b>		

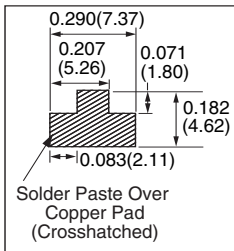


U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

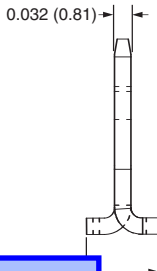
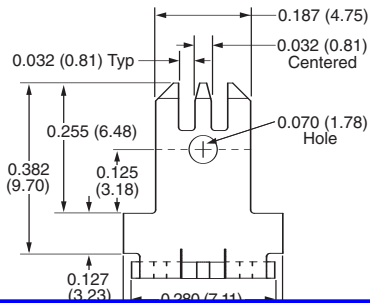
## SMT 0.187" (4.75mm) Tabs / Quick Disconnect Terminals

Mating receptacle first withdrawal force may not exceed the UL310 spec. of 18 lbs. max. A 2oz. PCB Copper trace recommended.

Recommended Pad Geometry



<b>Loose Part No.</b>	1278
<b>Strip Part No.</b>	6278
<b>Material Thickness/Type</b>	0.032" (0.81mm) Brass
<b>Standard Finish</b>	Loose: 100% Tin over Copper Reeled: 100% Tin over Copper
<b>Feeder System</b>	Surf Shooter SMT – Continuous Strip



PRINT MODIFIED for PN 1278, 6278  
See [www.zierick.com/pages/sm\\_qdt1278.php](http://www.zierick.com/pages/sm_qdt1278.php).

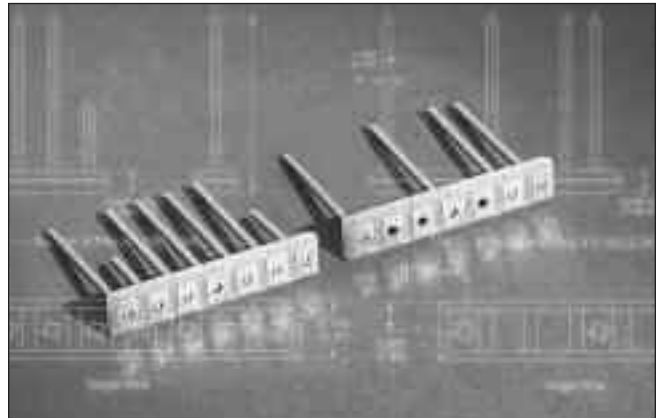
U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

Zierick's unique header assembly features capillary action to improve solder joint strength. As a result, pin retention force is 50% higher than that of J-Lead type headers. As the capillary action draws the solder, it pulls the header assembly tightly to the PCB. At the same time, co-planarity problems are eliminated because the force generated by the capillary action also pulls the header into proper position over the solder pad—even if the part has been placed off-center.

A circular solder pad on top of the board and a square solder pad on the bottom are connected to the conductive wall of the plated through-hole. The size of the hole is such that it holds the square pin in place, yet leaves four cavities defined by the flat side of the pin and the curved wall of the hole. The cavities promote capillary action by drawing most of the melted solder up through the cavities where it forms a ring at the top side of the header assembly board. This solder ring is a visual indication that the reflow process is perfect and complete.

Further, because the header base is made of the same material as the PCB, there are no thermally induced stresses on the solder joint—long-term reliability is guaranteed. In addition, deep score lines run across both sides of the header base. The assembly is very flexible and can accommodate board warpage without weakening connections.

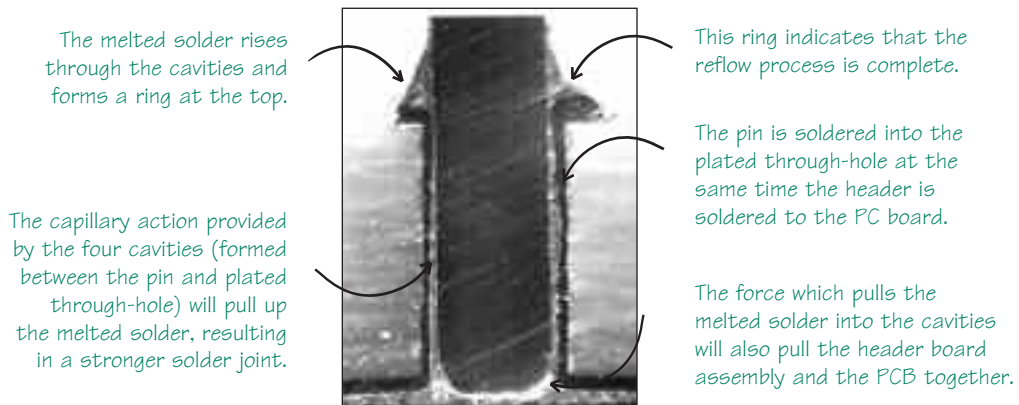
To meet varying application requirements, Zierick headers are available with pins missing at specified positions or



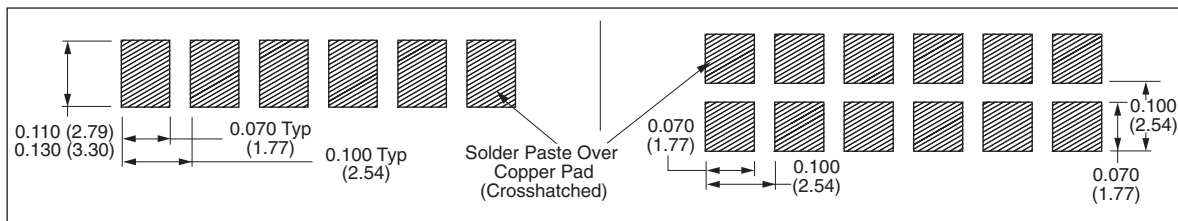
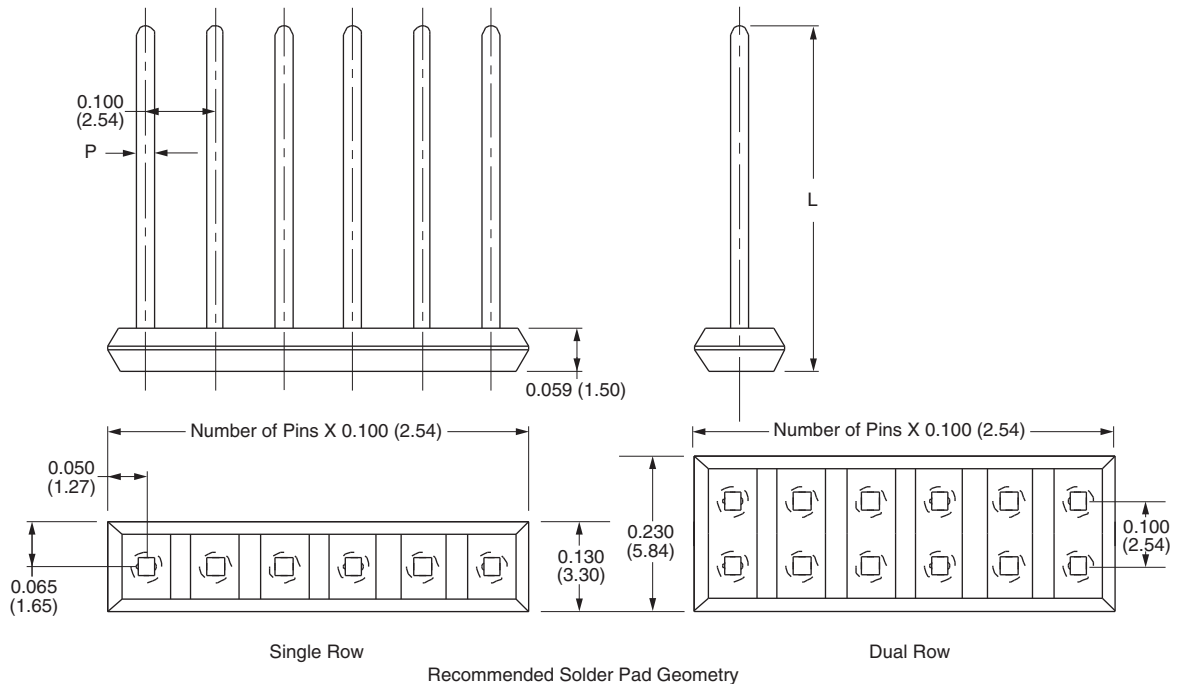
with pins of different lengths and sizes. Pins are offered in brass or copper, and optional configurations are available.

### Features and benefits of Zierick headers:

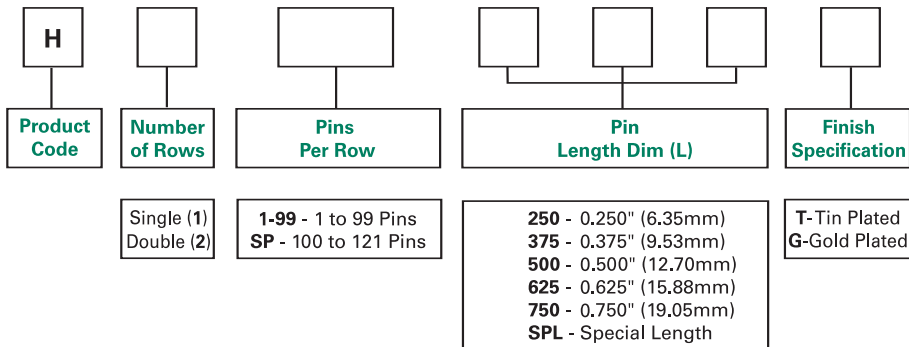
- Co-planarity problems eliminated
- Minimal real estate required on board
- 50% higher pin retention force
- Optional configurations
  - Single row
  - Dual row
  - Horizontal
  - Matrix
- More forgiving board placement tolerances
- Visual indicator assures quality processing
- Highest resistance to thermal shock and thermal cycling due to material selection



# 0.025" (0.635mm) Square SMT Pin Headers



## PART NUMBERING SYSTEM



### EXAMPLE

**H** **1** **10** **2** **5** **0** **G**

**H** - Product Code, **1** - Single Row Header, **10** - Ten Pins Per Row  
**250** - 0.250" (6.35mm) Pin Length, **G** - Gold Plated

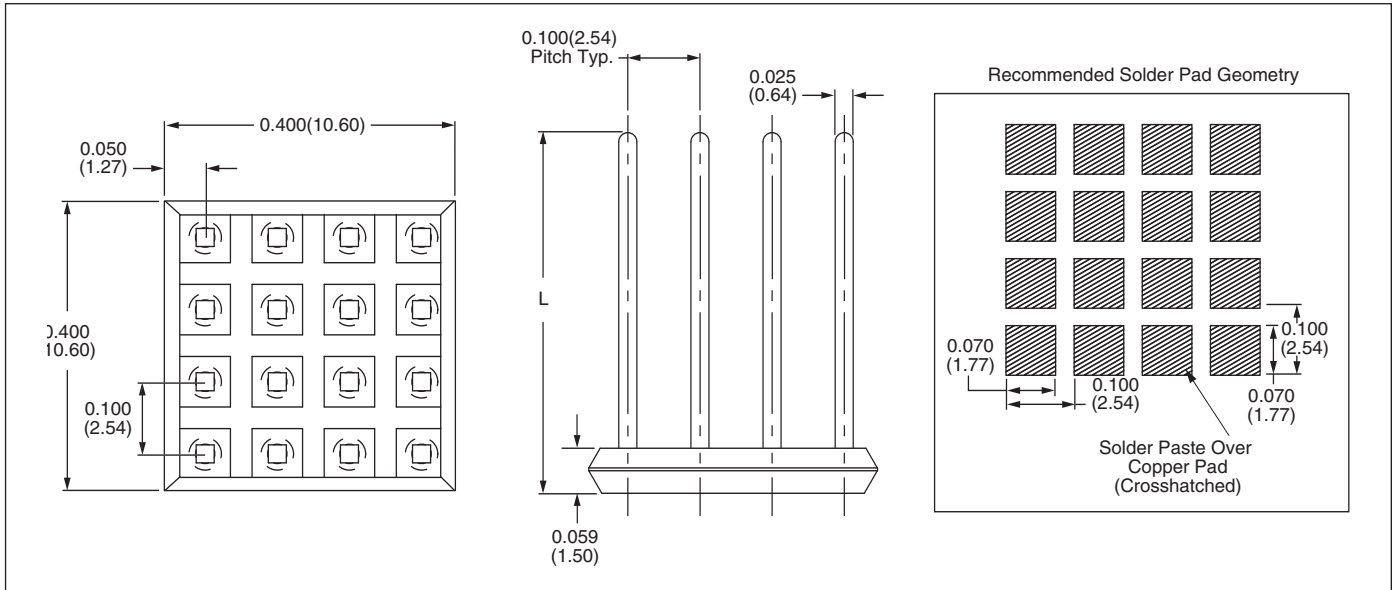
**Packaging** - Loose Piece or Strip Format

**Feeder System** - Surf Shooter SMT - Header Feeder. The Header Feeder integrates into standard flexible placement equipment and feeds header strips, then shears and presents individual header assemblies for nozzle pick-up.

U.S. Patent No. 6,402,531 B1

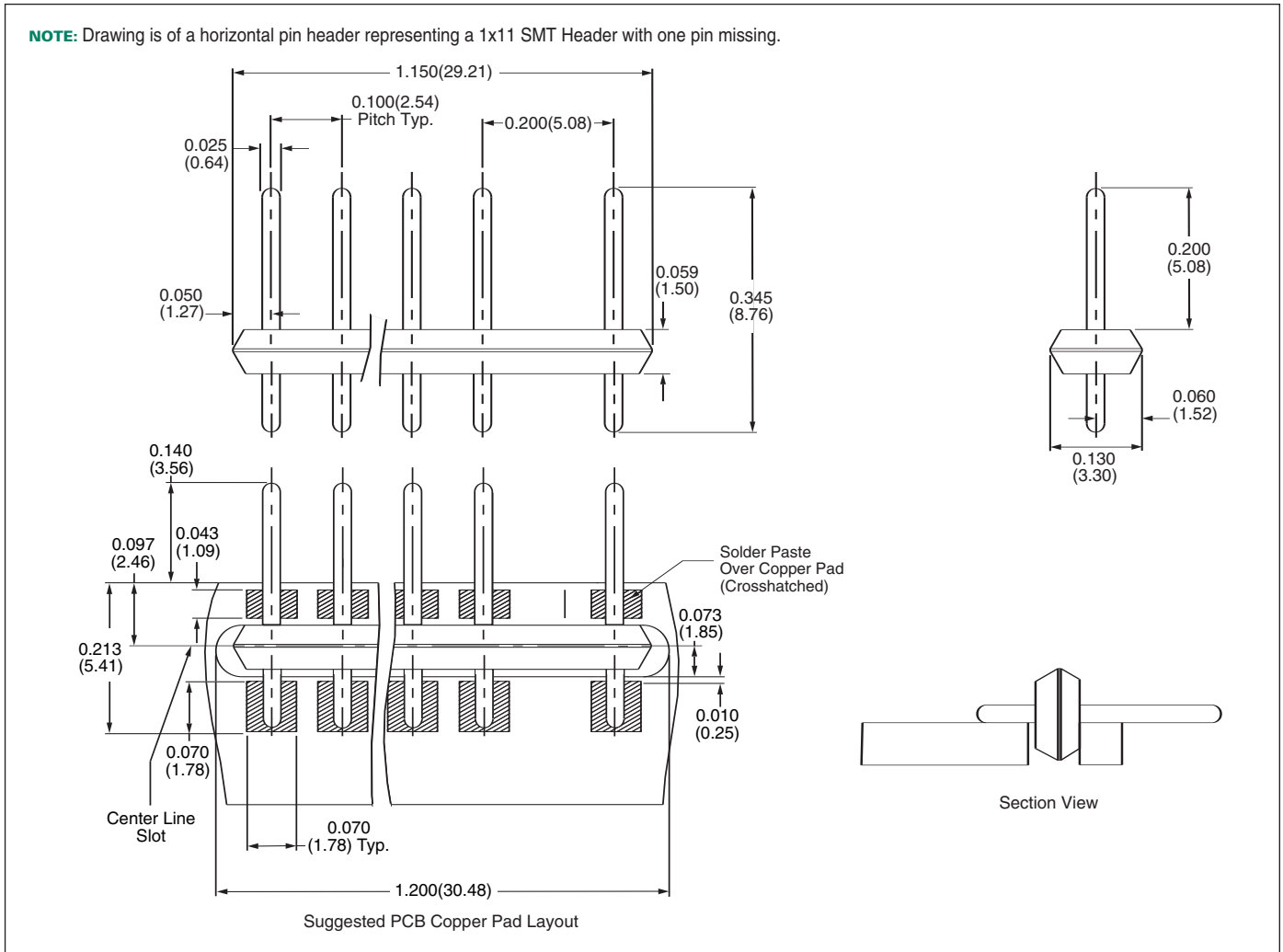
For exact finish specifications and available special finishes, see Finish Table (page 106).

# SMT Pin Matrix Headers

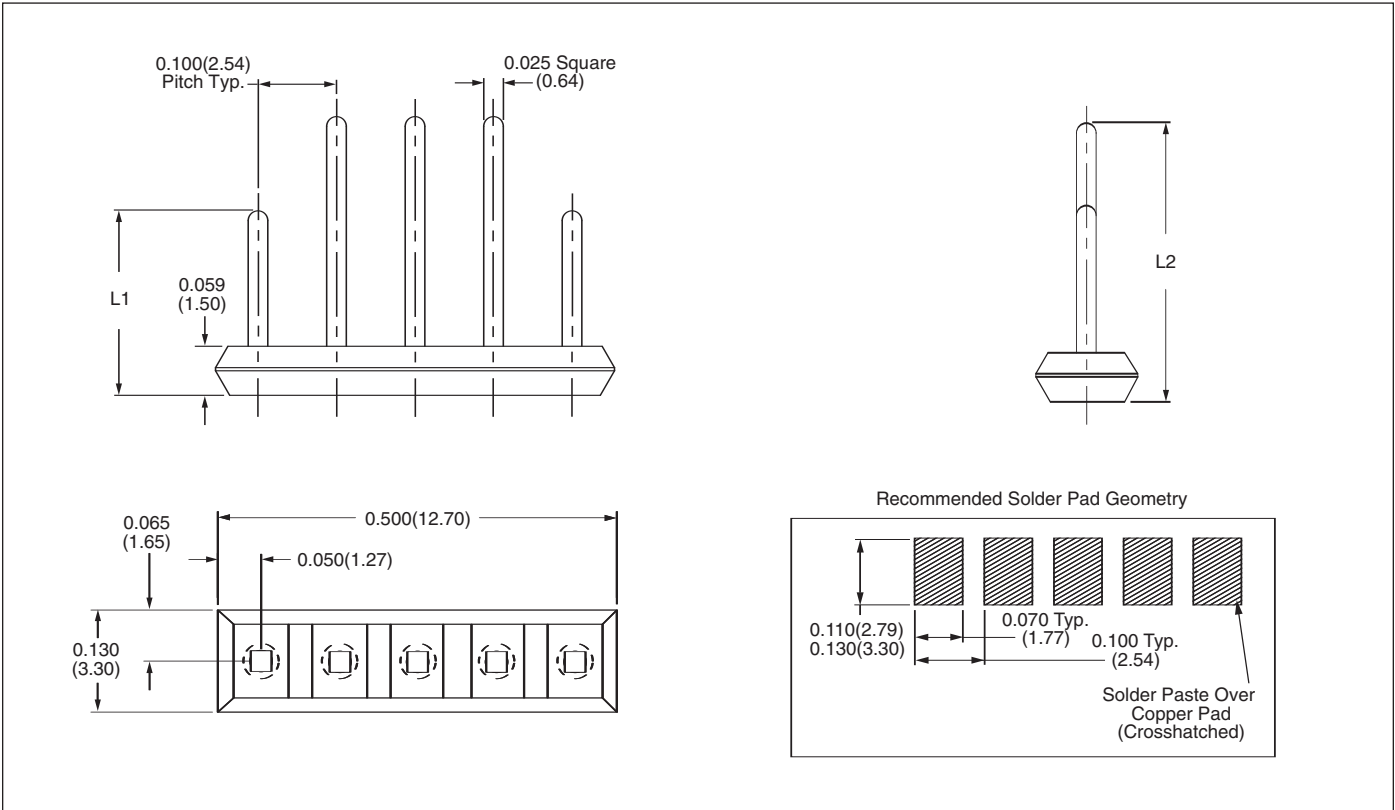


# SMT Horizontal Pin Headers

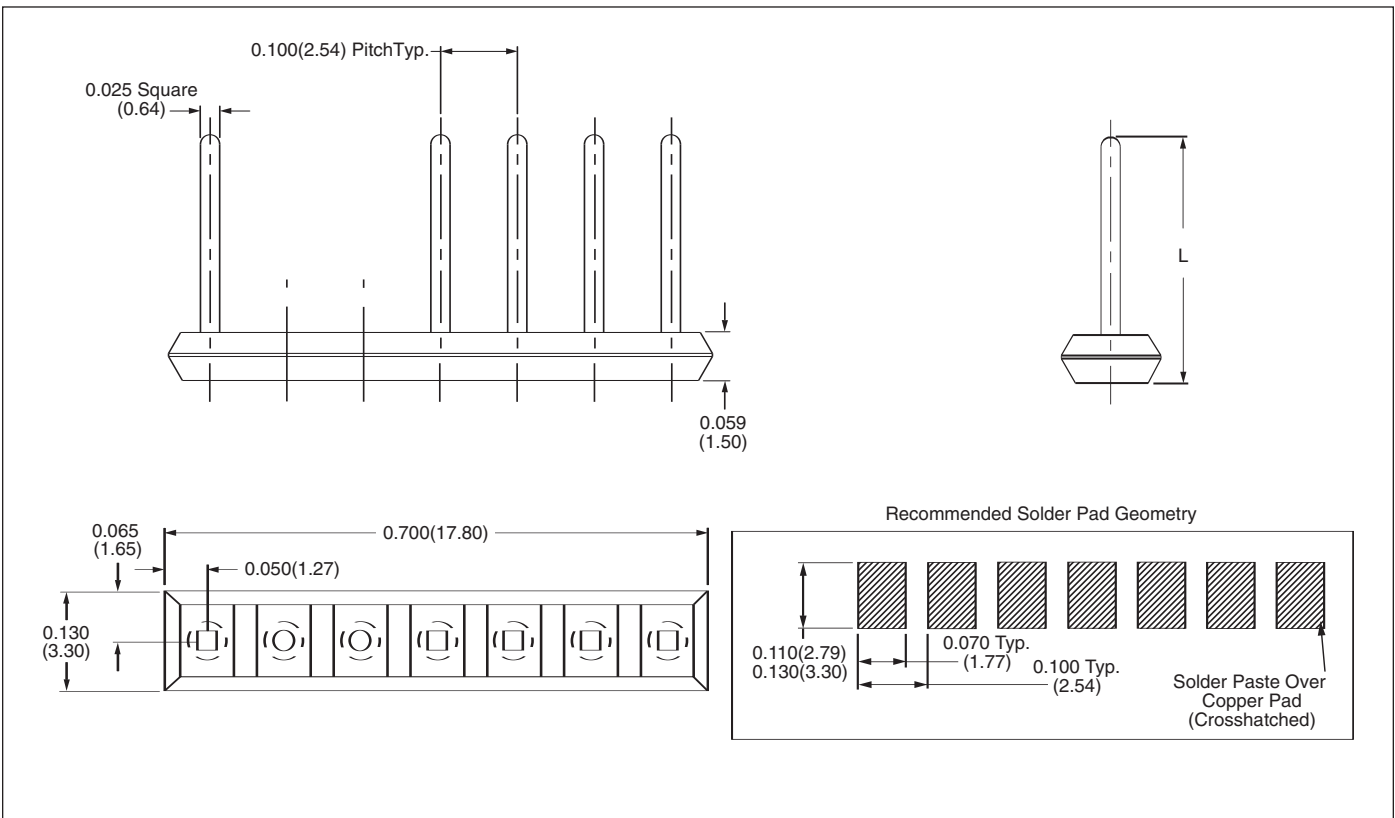
**NOTE:** Drawing is of a horizontal pin header representing a 1x11 SMT Header with one pin missing.

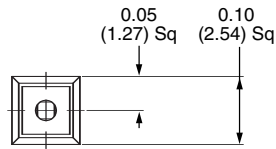
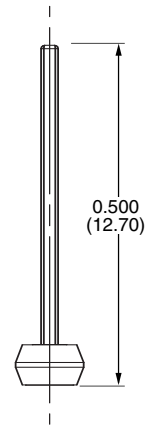
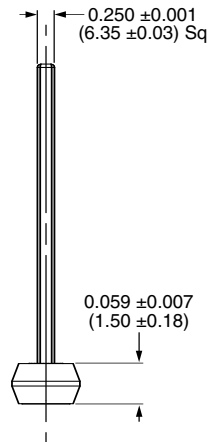


## SMT Variable Length Pin Headers

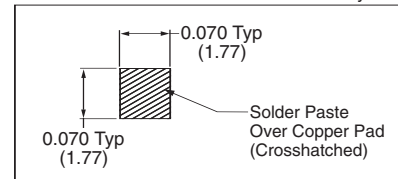


## SMT Missing Pin Headers



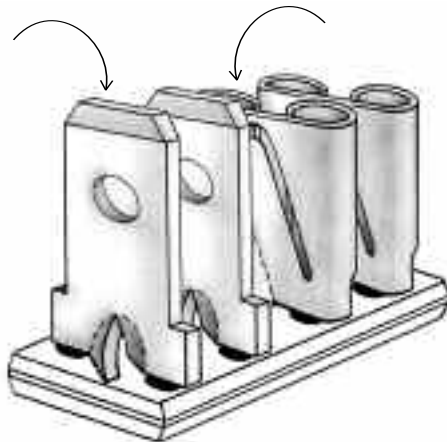


Recommended Solder Pad Geometry

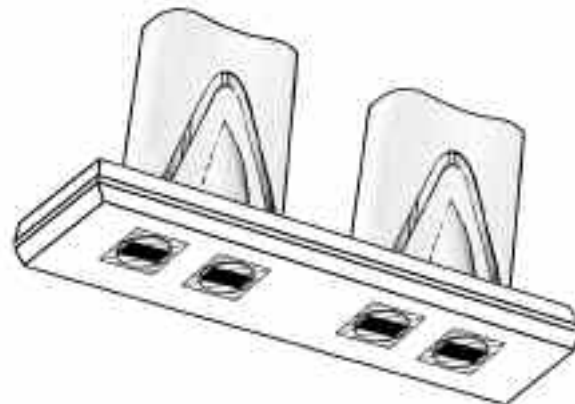


# SMT Tab and Receptacle Headers

Combine different components on a single surface mount header to meet your application specific requirements.



On the top side of the board, there is a small circular solder pad centralized around the plated through-hole allowing for visual confirmation that reflow has taken place.



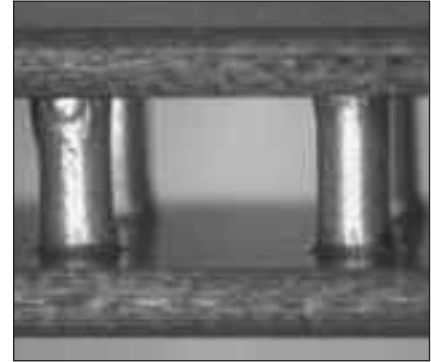
The plated through-holes are located at the center of a square solder pad on the bottom of the board providing capillary action and a firm solder bond to the PCB pad.





Zierick's Board Stacking Connector allows for more PCB design flexibility and more room for additional components.

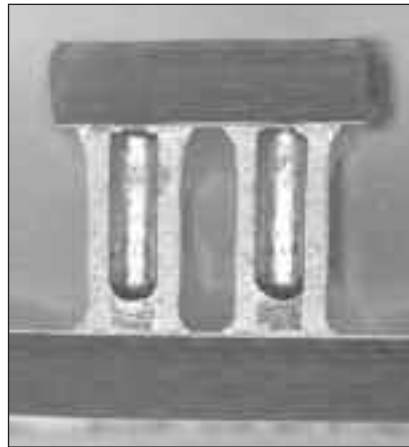
The Board Stacking Connector joins the mother and daughter board with surface mount technology on both boards.



Zierick has applied the benefits of capillary action to our newest interconnect product—the Board Stacking Connector. This unique connector surface mounts to both the bottom and the top of a PCB, allowing for the connection of a mother and daughter board without through-hole pins. The result? Greater PCB design flexibility, more cost-efficiency and a higher quality connection.

Available in bulk, on pallets or on SMT tape, the Board Stacking Connectors use minimal real estate, allowing additional components to be placed on the PCB. They are self-centering and offer co-planarity within 0.001", virtually eliminating any alignment problems. Plus, they have low contact resistance and a high current rating to meet today's modular power requirements.

The Board Stacking Connector uses capillary action to provide superior solder joint strength for a more reliable connection. The connectors are first surface-mounted to the mother board. After reflow, the PCB with the connectors are surface-mounted to the daughter board.



### Benefits

Zierick's Board Stacking Connector:

#### Provides a cost-efficient board stacking solution.

- Surface-mounts to the bottom and top of a PCB for a stronger mother board-daughter board connection
- Uses existing placement machines; no need for new insertion systems

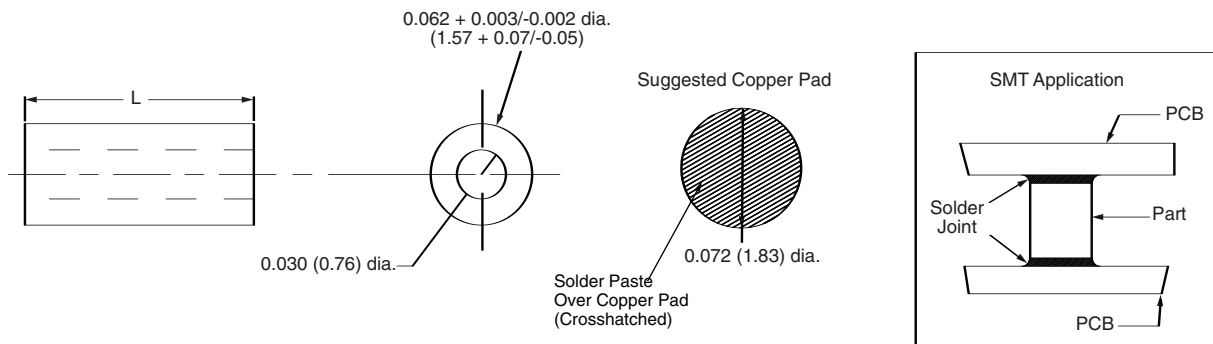
#### Increases PCB design flexibility.

- Uses minimal real estate, allowing for more components to be placed on the PCB
- Eliminates the need for through-hole pins

#### Allows for a better connection.

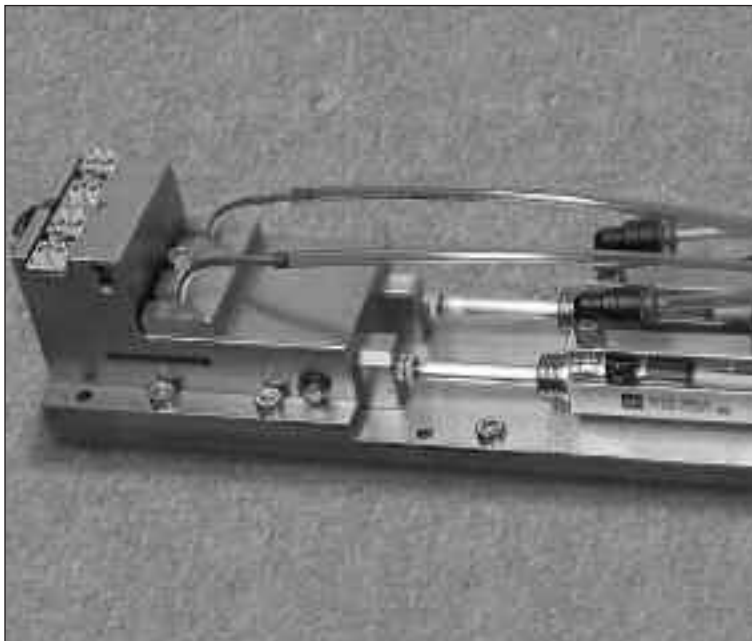
- Provides low contact resistance, high current rating and co-planarity within 0.001"
- Uses capillary action for a stronger solder joint

<b>Loose Part Number</b>	1258 - xxx - 0
<b>Dimension L</b>	0.090" to 0.250" (Fill in xxx with desired length, Dimension L)
<b>Taped Part Number</b>	1261T (PN 1258-090-0 in Tape) Consult factory for other taped options.
<b>Finish Material</b>	.000150" Min 100% Tin over .000100" Copper
<b>Contact Material</b>	C36000 Brass Cylinder Consult factory for optional materials.
<b>Termination Retention Force</b>	3.5 lbs per terminal
<b>Current Rating</b>	10 Ampere



U.S. Pat. No. 5,816,868

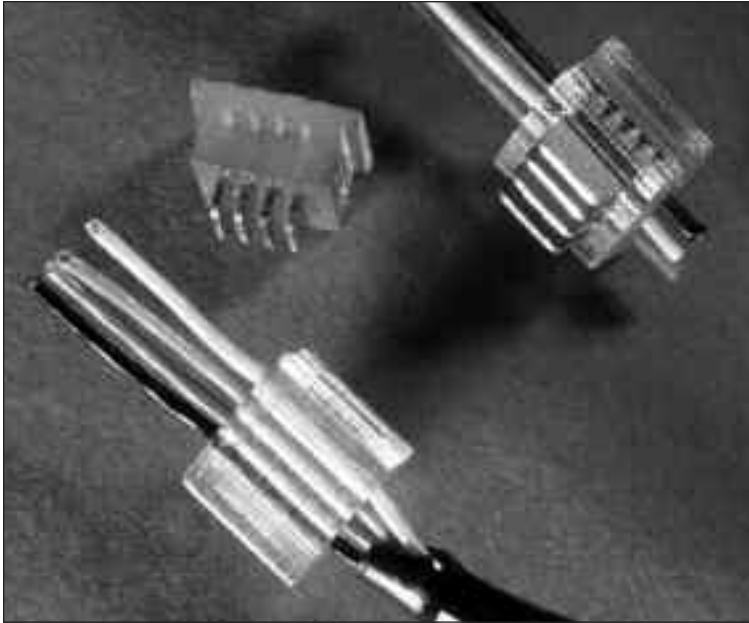
## Surf Shooter SMT Board Stacking Connector Feeder



The Surf Shooter SMT Board Stacking Connector Feeder is designed to mount to a flexible placement system (flex cell) and present the SMT component at feed rates greater than 3 connectors/second. Parts are fed into an escapement where compressed air pushes the board stacking connector into a reservoir that presents the component to the placement system vacuum nozzle.

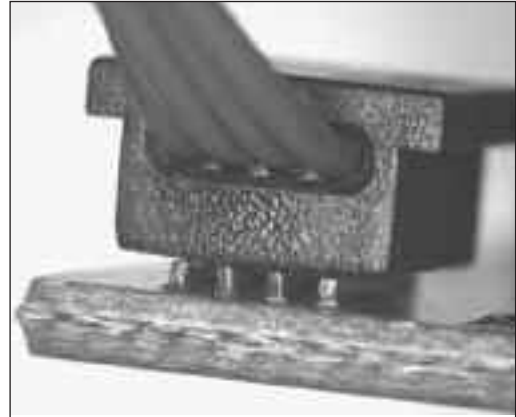
The unit is compact, less than 4" wide, and easily mounts to the placement system feeder bay. The feeder itself is a self-contained unit, 110 V<sub>AC</sub>/80 psi, typically requiring no electronic control interface with the placement machine.

*The feeder is designed specifically to accommodate the new connectors. High-speed feeders are available for most placement systems.*



Zierick's Fine Wire Connectors can efficiently terminate a number of wires all at once.

The reliability of the connector assures wire retention and eliminates the need to solder wires directly to the PCB.



Zierick offers its newest insulation piercing connector — the SMT Fine Wire Connector. This connector offers a cost-efficient, reliable solution for solid, stranded or tinsel wire terminations. By allowing reliable one-step multiple wire termination within a plastic housing, the connector reduces assembly costs and provides a more durable wire connection.

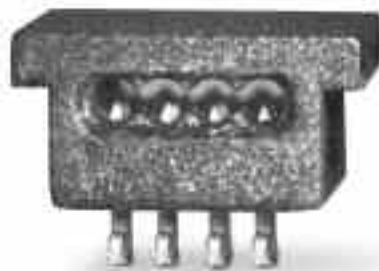
### Design

Zierick's Fine Wire Connector design builds on Insulation Piercing Connector (IPC) technology, which is the ideal method for wire termination. IPC technology allows multiple wires to be terminated simultaneously without being stripped first.

This fine wire IPC connector features a unique design of four wire housing holes and four individual piercing blades that can accommodate solid, stranded or tinsel wire. The piercing blades are made to go in one direction only, and maintain a continuous force on each wire. Its durable plastic housing provides excellent wire retention.

### Assembly Process

First, these IPC connectors are surface mounted to the PCB. After reflow, the insulated wires are inserted into the holes of the housing. Force is then applied to the top of the plastic housing and the piercing blades cut through the insulation and penetrate into the wire core — completing the wire connection process.



The piercing blades accommodate solid, stranded or tinsel wire, and are designed to maintain a continuous force on each wire.

### Benefits

Zierick's SMT Fine Wire Connector:

#### **Saves you labor time and costs.**

- Eliminates the need to solder wires to the PCB
- Allows for the efficient termination of multiple wires at the same time

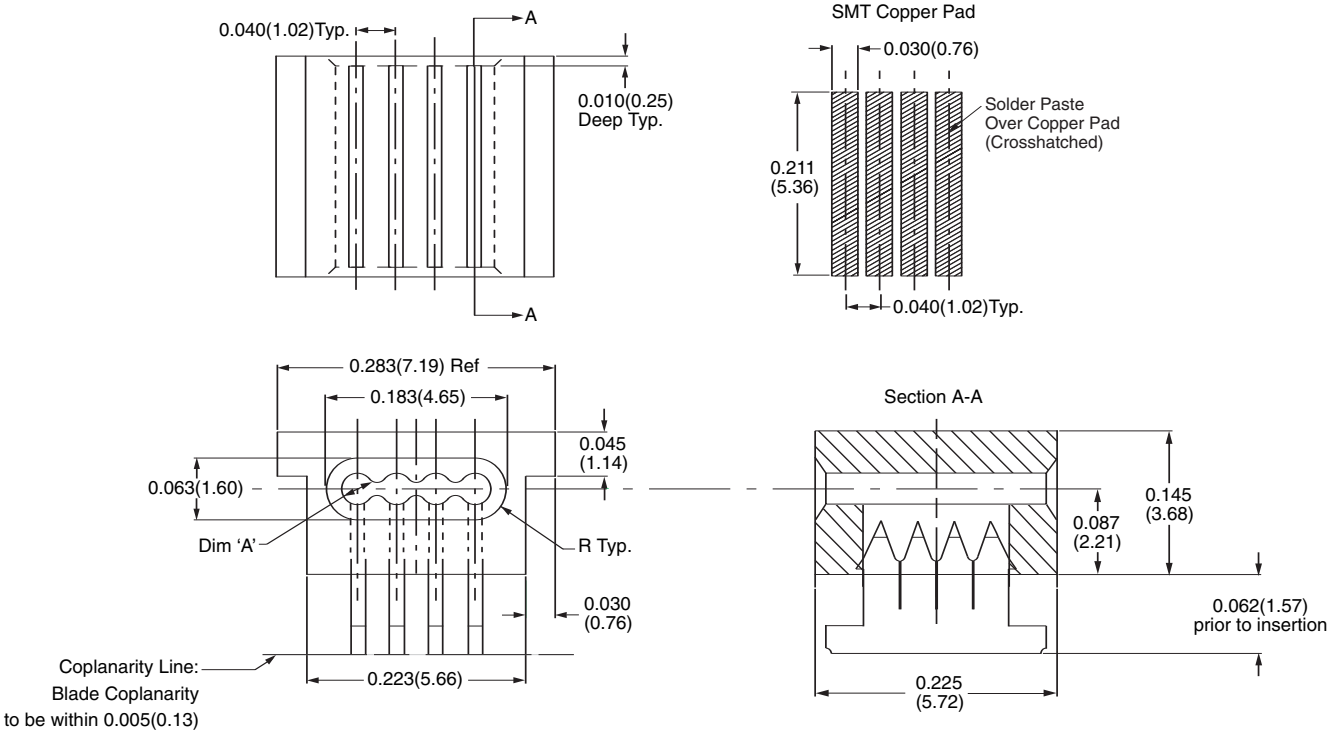
#### **Gives you a higher quality termination.**

- Maintains consistent pressure on the wires for better conductor contact
- Provides superior retention to the board

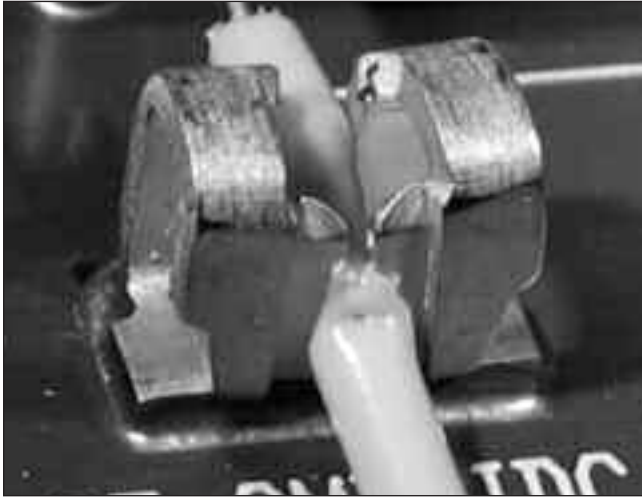
#### **Provides a more cost-efficient solution.**

- Uses minimal PCB real estate
- Offers the least expensive method for wire termination

Physical			
<b>Loose Part No.</b>	IPC-4	IPC-4-45	
<b>Taped Part No.</b>	IPC-4-T	IPC-4-45T	
<b>Dim 'A'</b>	0.035(0.89)	0.045(1.14)	
<b>Wire Gauge &amp; Insulation Diameter</b>	From 32 AWG to 28 AWG solid, stranded or tinsel wire; with insulation diameter 0.025" – 0.032"	From 32 AWG to 26 AWG solid, stranded or tinsel wire; with insulation diameter 0.033" – 0.043"	IPC-4-45 has an ID chamfer in the plastic housing.
<b>Contact Plating</b>	0.000150" Min 100% Tin over .000100 Min Copper		
<b>Termination Force</b>	Approx. 80 lbs (for 4 wire)	<b>Insulation Material</b>	PPS GS-40 40% glass filled
<b>Contact Material</b>	CDA 260 Brass	<b>UL Flammability Rating</b>	94V-0
<b>Markings</b>	Z (Zierick logo) and cavity number	<b>Color</b>	Black
Electrical			
<b>Current Rating/ Wire Size</b>	28 AWG 1.5 Amp., 30–32 AWG 1 Amp.	<b>Insulation Resistance</b>	> 1 x 10 <sup>9</sup> Ω @ 500 VDC
<b>Contact Resistance</b>	> 20 mΩ	<b>Withstanding Voltage</b>	500 VRMS @ Sea Level
Environmental			
<b>Reflow Temperature</b>	446° F Max 230° C Max	<b>Operating Temperature</b>	-67° F to 221° F (-55° C to 105° C)



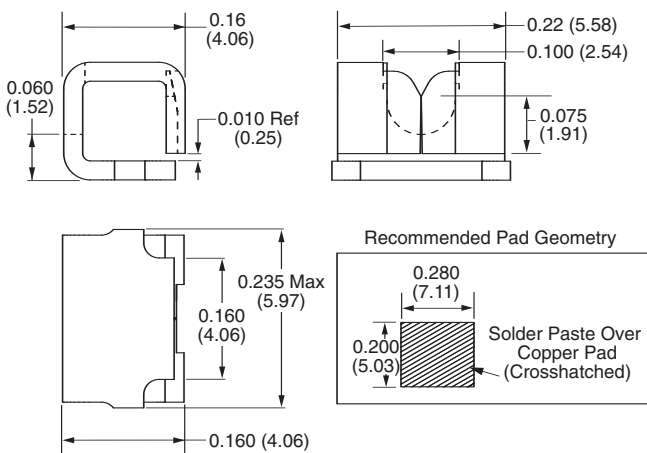
U.S. Patent(s) pending



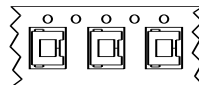
Zierick's Surface Mount IDC was designed to be a more cost-effective way to terminate a wire because it eliminates the need for hand-soldering wires to the PCB. It was also designed to be automated by the customer's existing pick-and-place equipment using standard taping methods or a special feeder. This is a surface mount version of a proven through-hole version. It is re-usable, has a low profile, and is geographically stable. Our family of SMT IDCs can terminate a large range of wire gauges. It has a proven track record for withstanding shock and vibrations associated with automotive applications.

SMT IDC Wire Connectors

**NOTE:** Internal strain relief dimensions dependent on wire/insulation; please consult factory.



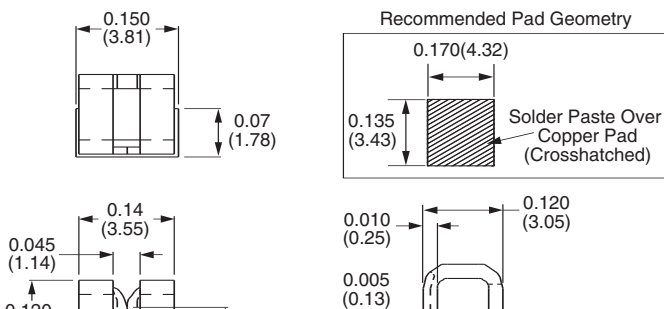
<b>Loose Part No.</b>	1245	1245T
<b>Material Thickness/ Type</b>	0.025" (0.64mm) Brass	
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	N/A	Standard 12mm Tape Feeder
<b>Wire Gauge Range</b>	#26-18 AWG	
<b>Wire Insertion Tool</b>	WTP-4ALL: Prototype Tool WTPPS-1208-1: Pneumatic Production Tool	



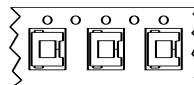
Also available in Carrier Tape (1245T)

U.S. Patent No. 5,022,868 and other international patents

**NOTE:** Internal strain relief dimensions dependent on wire/insulation; please consult factory.



<b>Loose Part No.</b>	1235	1235T
<b>Material Thickness/ Type</b>	0.020" (0.50mm) Brass	
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	N/A	Standard 12mm Tape Feeder
<b>Wire Gauge Range</b>	#26-30 AWG	
<b>Wire Insertion Tool</b>	WTPPS-1235-1: Pneumatic Production Tool	

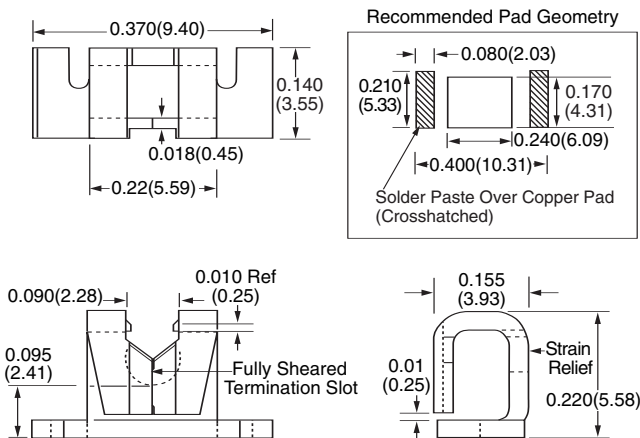


Also available in Carrier Tape (1235T)

U.S. Patent No. 5,022,868 and other international patents

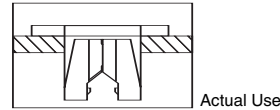
PRINT MODIFIED for PN 1235, 1235T  
See [www.zierick.com/pages/sm\\_idc\\_1235.php](http://www.zierick.com/pages/sm_idc_1235.php).

**NOTE:** Internal strain relief dimensions dependent on wire/insulation; please consult factory.



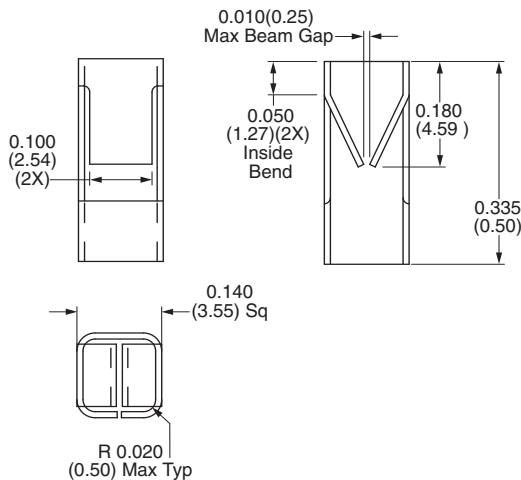
<b>Loose Part No.</b>	1227
<b>Reeled Part No.</b>	6227
<b>Material Thickness/ Type</b>	0.032" (0.81mm) Brass
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT- Continuous Strip
<b>Wire Gauge Range*</b>	#26-18 AWG

\*Note: Wire insertion tool required. Consult factory.



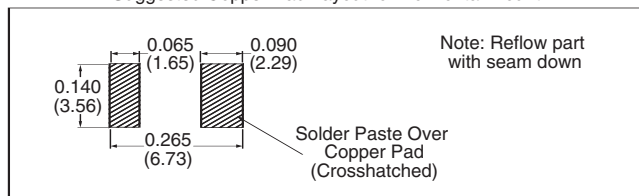
U.S. Patent No. 5,022,868 and other international patents

## SMT Wire Gripper

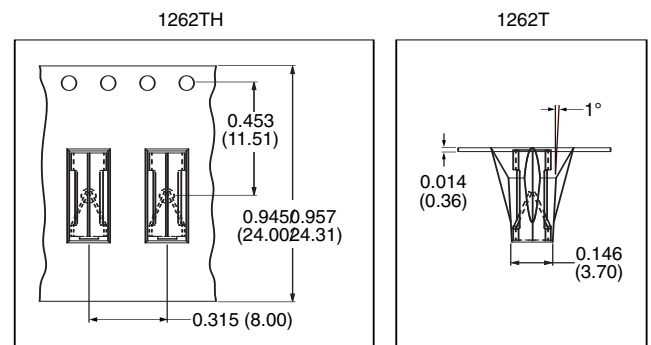
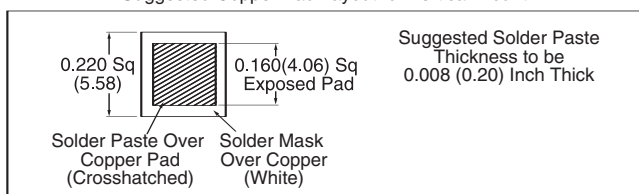


<b>Loose Part No.</b>	1262
<b>Reeled Part No.</b>	6262
<b>Taped Part No.</b>	1262T                      1262TH
<b>Mating Terminal Size</b>	0.025" (0.64mm) square or 0.032" (0.81mm) round pin
<b>Material Thickness/ Type</b>	0.008" (0.20mm) Phosphor Bronze
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT - Continuous Strip Standard 24mm Tape Feeder

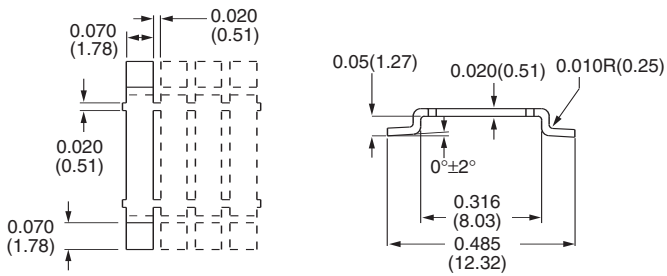
Suggested Copper Pad Layout for Horizontal Mount



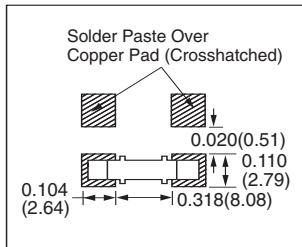
Suggested Copper Pad Layout for Vertical Mount







Recommended Pad Geometry

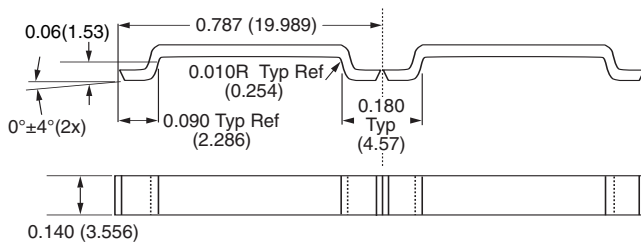
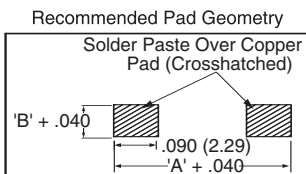


<b>Loose Part No.</b>	1179	1179T
<b>Reeled Part No.</b>	6179	N/A
<b>Material Thickness Type</b>	0.020" (0.50mm) Copper	0.020" (0.50mm) Copper
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	Surf-Shooter SMT – Continuous Strip	Standard 24mm Tape Feeder



U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

## SMT (Variable Size) Jumper



No additional charge for any other length jumper up to 2".  
Standard width for all lengths is 0.140".  
Consult factory for other widths and for feeder.

<b>Standard Reeled Part No.</b>	6233-AAAA-140
<b>Other Reeled Part No.</b>	6233-AAAA-BBB
<b>Material Thickness/ Type</b>	0.020" (0.50mm) Copper
<b>Standard Finish</b>	100% Tin Over Copper
<b>Feeder System</b>	Standard 24mm Tape Feeder

	<b>Dim 'A'</b>	<b>Dim 'B'</b>	<b>Corres. part no.</b>
Minimum	0.300" (7.62mm)	0.075" (1.91mm)	6233-300-075
Maximum	1.500" (38.1mm)	0.200" (5.08mm)	6233-1500-200

Where Dimension 'A' = jumper length and Dimension 'B' = jumper width



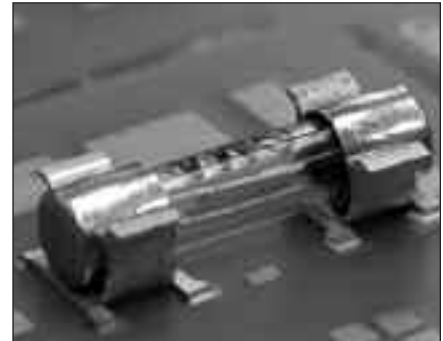
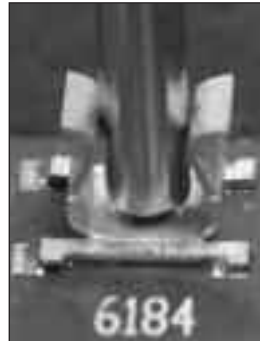
U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

Different lengths and widths are available—please consult factory.



Surface Mount Box Receptacles provide placement flexibility to suit a variety of applications.

Zierick's versatile Universal Tab Receptacles and SMT clips are all designed for maximum durability and stability.



Zierick's family of SMT receptacles provides a range of options designed to lower manufacturing costs, simplify assembly, and increase productivity. In addition to Standard Receptacles, Zierick recently expanded its product line with Surface Mount Box Receptacles, increasing your options for flexibility and compatibility.

### Standard Surface Mount Receptacles:

- The 1237 top-entry Universal Tab Receptacle
- The 1238 bottom-entry Universal Tab Receptacle

Both Standard Receptacles accommodate a mating terminal size of 0.025" (0.64mm) to 0.032" (0.81mm) thickness. The receptacles will tolerate a lateral misalignment of  $\pm 0.012$ " (0.30mm), and an angular misalignment of  $\pm 10^\circ$ . Constructed of brass, the receptacles have a material thickness of 0.016" (0.41mm) and have a standard finish of 100% tin over copper.

### Surface Mount Box Receptacles:

- The 1266, which accepts top-entry or an alternative bottom-entry to mate with a through-board pin
- The 1277 accepts top- or bottom-entry, and can be placed in either vertical or horizontal position
- The 1262, which offers traditional placement, and can be placed upside-down for bottom-entry. A special version of this terminal can be used in a wire gripper application to grip and hold a 14 AWG wire

The flexibility of these receptacles provides a number of important benefits in addition to placement and entry options. A small footprint and low insertion force ensure efficiency of use. Twelve or more available mating cycles increase productivity in demanding environments. Continuous reel production eliminates time-consuming hand placement and expensive fixturing by utilizing the Surf-Shooter SMT Feeder and existing placement systems.

Zierick's innovative surface mount technology ensures reliable mounting on all of our receptacles.

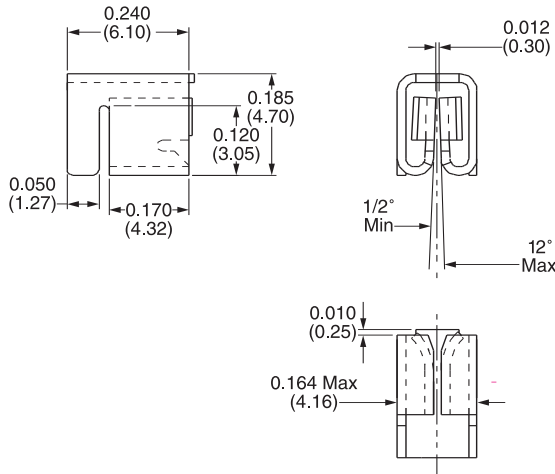
### Surface Mount Clips

Zierick's SMT Receptacle family of products also includes SMT Clips — A versatile line of receptacles with Surf-Shooter SMT continuous strip compatibility.

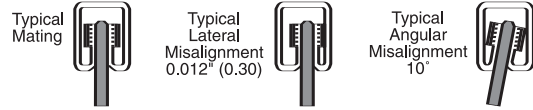
The Snap-In Fuse Clip employs a spring-loaded mounting leg, and is proven to display increased retention, strength, and durability while withstanding side loading and rough PCB handling. Both Snap-In and Standard Fuse Clips are available in loose-piece format — with or without integral fuse stops — for 1/4" (6.35mm) and 0.197" (5mm) cylindrical fuse styles.



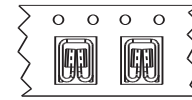
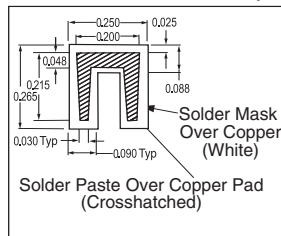
## SMT Top- or Horizontal-Entry Universal Tab Receptacle



<b>Loose Part No.</b>	1237	1237T
<b>Mating Terminal Size</b>	0.025" (0.64mm) to 0.032" (0.81mm) thick	
<b>Material Thickness/ Type</b>	0.016" (0.41mm) Brass	
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	Consult factory for Surf-Shooter SMT and continuous strip P/N 6237	

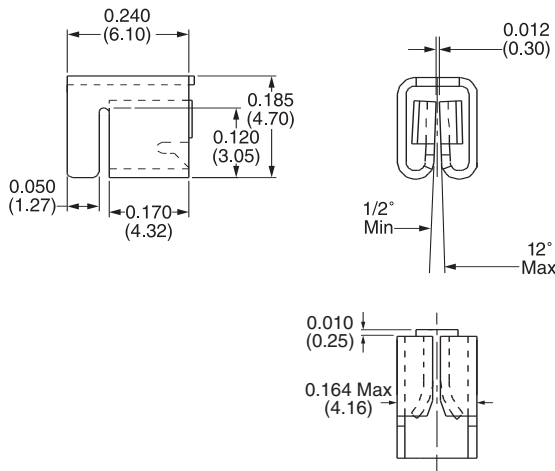


Recommended Pad Geometry

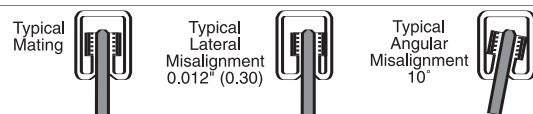


Also available in Carrier Tape (1237T) (for 16mm Tape Feeder)

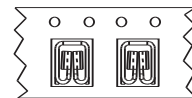
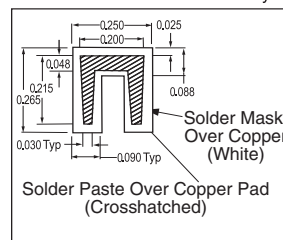
## SMT Bottom- or Horizontal-Entry Universal Tab Receptacle



<b>Loose Part No.</b>	1238	1238T
<b>Mating Terminal Size</b>	0.025" (0.64mm) to 0.032" (0.81mm) thick	
<b>Material Thickness/ Type</b>	0.016" (0.41mm) Brass	
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	Consult factory for Surf-Shooter SMT and continuous strip P/N 6238	



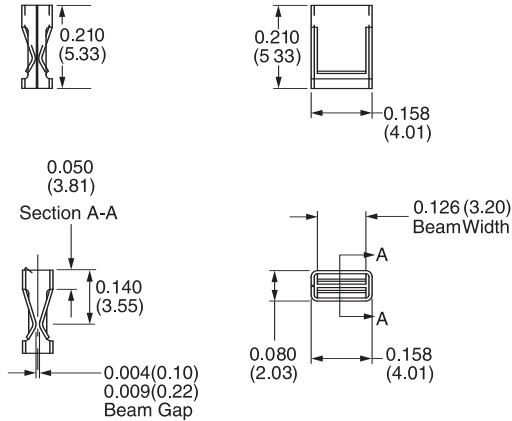
Recommended Pad Geometry



Also available in Carrier Tape (1238T) (for 16mm Tape Feeder)

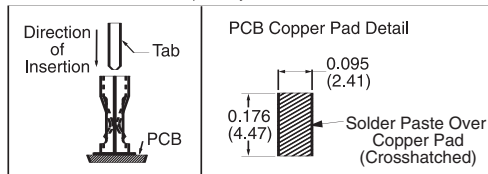
PRINT MODIFIED for PN 1238, 1238T  
See [www.zierick.com/pages/sm\\_botentrec.php](http://www.zierick.com/pages/sm_botentrec.php).

# SMT Dual Entry Box Receptacle

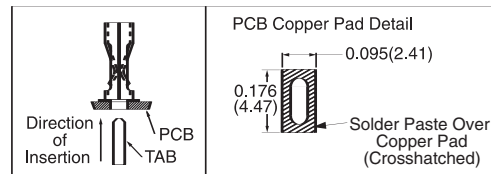


<b>Loose Part No.</b>	1266
<b>Reeled Part No.</b>	6266
<b>Mating Terminal Size</b>	0.020" (0.51mm) to 0.032" (0.81mm) thick
<b>Material Thickness/Type</b>	0.008" (0.20mm) Phosphor Bronze
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT – Continuous Strip

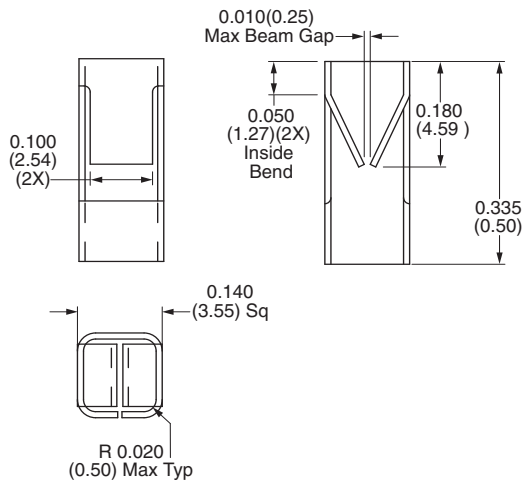
Top-Entry Illustration



Bottom-Entry Illustration

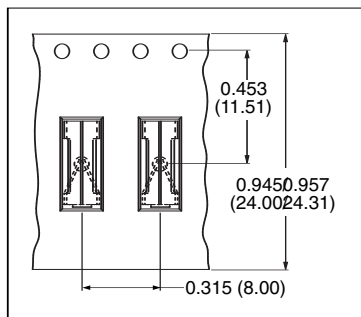


# SMT Top- or Bottom-Entry Box Receptacle

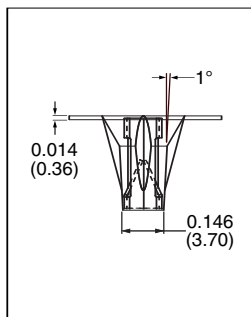


<b>Loose Part No.</b>	1262
<b>Reeled Part No.</b>	6262
<b>Taped Part No.</b>	1262T                      1262TH
<b>Mating Terminal Size</b>	0.025" (0.64mm) square or 0.032" (0.81mm) round pin
<b>Material Thickness/Type</b>	0.008" (0.20mm) Phosphor Bronze
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Surf-Shooter SMT – Continuous Strip Standard 12mm Tape Feeder

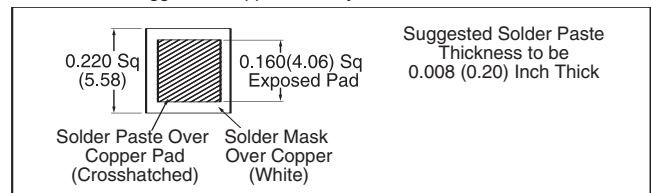
1262TH



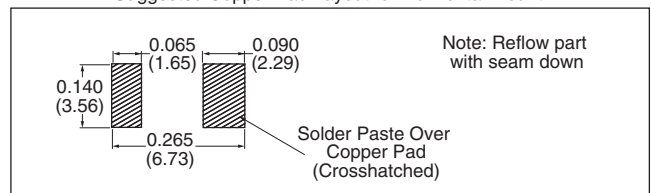
1262T



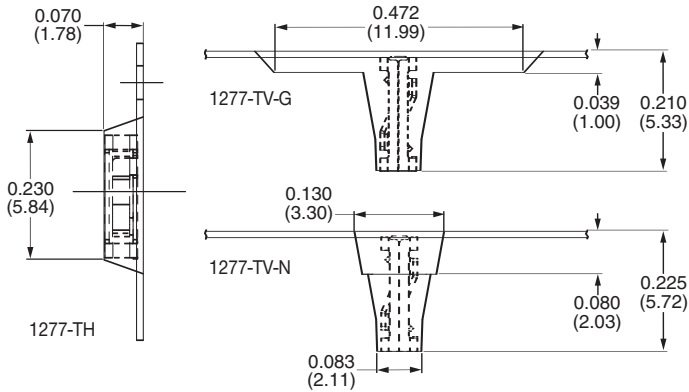
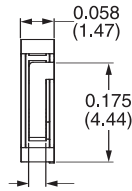
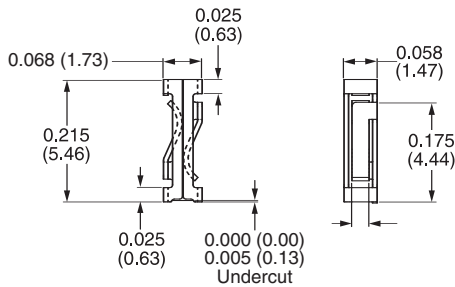
Suggested Copper Pad Layout for Vertical Mount



Suggested Copper Pad Layout for Horizontal Mount

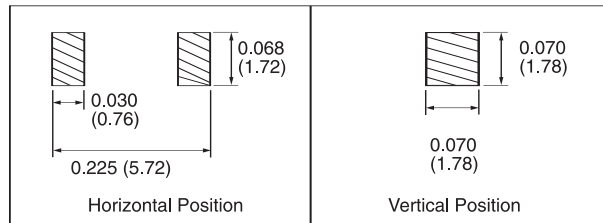


# SMT Vertical or Horizontal Box Receptacle

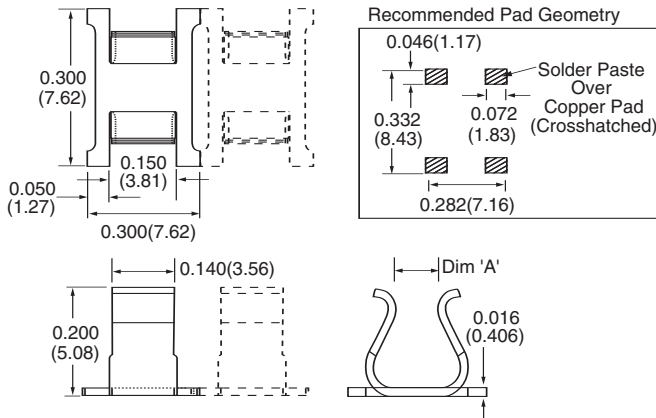


<b>Loose Part No.</b>	1277
<b>Reeled Part No.</b>	6277
<b>Taped Part No.</b>	1277-TH for Horizontal Placement 1277-TV-G for Gripper Pick-Up 1277-TV-N for Nozzle Pick-Up
<b>Mating Terminal Size</b>	0.025" (0.64mm) square or round pin
<b>Material Thickness/Type</b>	0.008" (0.20mm) Phosphor Bronze
<b>Standard Finish</b>	100% Tin over Copper
<b>Feeder System</b>	Loose: Standard 16mm Tape Feeder for PN 1277-TH. Standard 24mm Tape Feeder for PN 1277-TV-G and PN 1277-TV-N Reeled: Consult Factory for Feeder

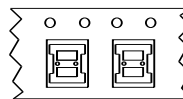
Recommended SMT Pad Geometry



# SMT Clips



	5mm Fuse Clip		Connector	
<b>Loose Part No.</b>	1230	1230T	1184	1184T
<b>Reeled Part No.</b>	6230		6184	
<b>Dim 'A'</b>	0.165" (4.19mm)		0.090" (2.29mm)	
<b>Material Thickness/Type</b>	0.016" (0.40mm) Phosphor Bronze			
<b>Standard Finish</b>	100% Tin over Copper			
<b>Feeder System</b>	Surf Shooter SMT - Continuous Strip			



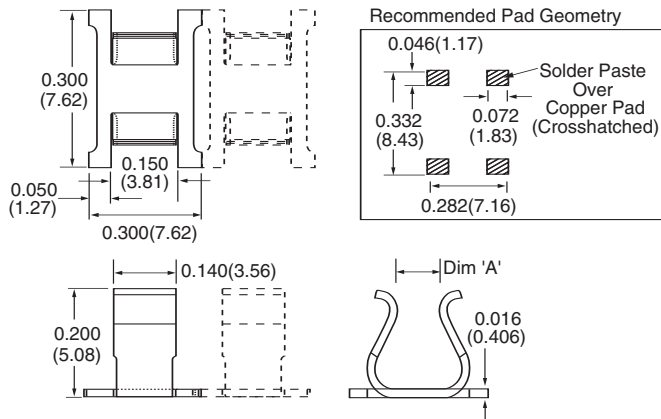
Also available in Carrier Tape (1230T or 1184T) (for 16mm Tape Feeder)

PRINT MODIFIED for PN 1230, 1230T, 6230, 1184, 1184T, 6184

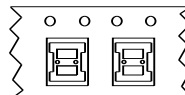
See [www.zierick.com/pages/sm\\_clips\\_1230.php](http://www.zierick.com/pages/sm_clips_1230.php).

5,695,348 and other U.S. and international patents and available special finishes, see Finish Table (page 106).

## 5mm Round Fuse Receptacles



<b>Loose Part No.</b>	1230	1230T
<b>Reeled Part No.</b>	6230	
<b>Dim 'A'</b>	0.165" (4.19mm)	
<b>Material Thickness/ Type</b>	0.016" (0.40mm) Phosphor Bronze	
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	Surf Shooter SMT – Continuous Strip	



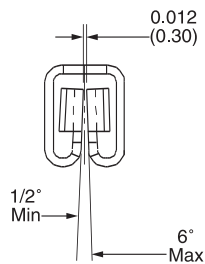
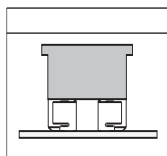
Also available in  
Carrier Tape (1230T)  
(for 16mm Tape Feeder)

PRINT MODIFIED for PN 1230, 1230T, 6230  
See [www.zierick.com/pages/sm\\_clips\\_1230.php](http://www.zierick.com/pages/sm_clips_1230.php).

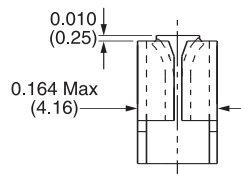
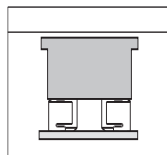
U.S. Patent No. 5,695,348 and other U.S. and international patents  
For exact finish specifications and available special finishes, see Finish Table (page 106).

## Auto Fuse Receptacle

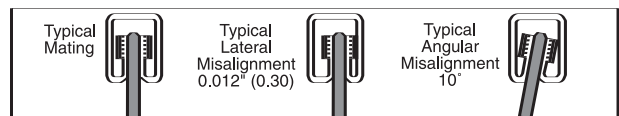
Optional use as  
mini-fuse holder



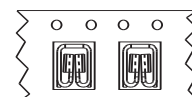
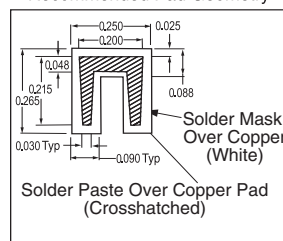
Optional use as ATC  
(Auto) fuse holder



<b>Loose Part No.</b>	1237	1237T
<b>Mating Terminal Size</b>	0.025" (0.64mm) to 0.032" (0.81mm) thick	
<b>Material Thickness/ Type</b>	0.016" (0.41mm) Brass	
<b>Standard Finish</b>	100% Tin over Copper	
<b>Feeder System</b>	Consult factory for Surf-Shooter SMT and continuous strip P/N 6237	



Recommended Pad Geometry



Also available in  
Carrier Tape (1237T)  
(for 16mm Tape Feeder)

PRINT MODIFIED for PN 1237, 1237T  
See [www.zierick.com/pages/sm\\_autofuse.php](http://www.zierick.com/pages/sm_autofuse.php).

## SMT Bottom Entry, Through-Board Socket

As part of the SMT Receptacle line of products, Zierick's SMT Socket delivers high performance, flexibility, and a number of other benefits, all in an extremely compact size for a through-board socket.

Designed to handle high current ratings—up to 7 amps—this small footprint, low profile receptacle delivers significant reliability for surface mount application needs.

Another primary benefit of the SMT Socket is its flexibility. Its superior capacity accommodates either a power or signal connection. With the ability to handle a high number of mating cycles, it is ideal for demanding production environments and high density applications.

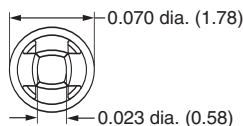
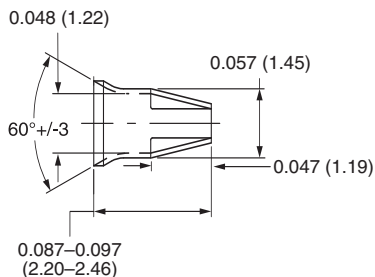
The SMT Socket's versatility is also demonstrated through its compatibility. Mating pin sizes for the SMT Socket include 0.025" square and 0.027" to 0.032" diameter round pins. The material is 0.005" thick beryllium copper with a bright tin finish.

The SMT Socket is available in tape and reel, allowing the use of a standard pick-and-place tape feeder, and taking advantage of Zierick's ability to provide quality parts in a standard taped pocket format. The socket is also available in bulk.

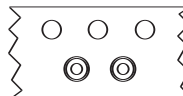


The SMT Socket 1260 offers a bottom-entry, through-board connection with a small footprint and the ability to handle high current ratings—up to 7 amps.

## SMT Bottom Entry, Through-Board Socket



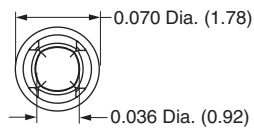
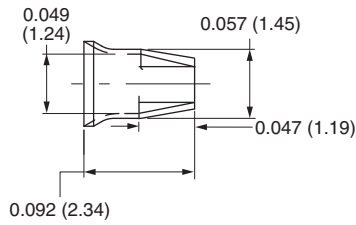
<b>Loose Part No.</b>	1260
<b>Taped Part No.</b>	1260T
<b>Mating Pin Size</b>	0.025" (0.64mm) Square or 0.025" (0.64mm) to 0.032" (0.81mm) Dia Round Pins
<b>Material Thickness/Type</b>	0.005" (0.13mm) Beryllium Copper
<b>Standard Finish</b>	Bright Tin over Copper
<b>Feeder System</b>	Standard Tape Feeder for Taped Parts



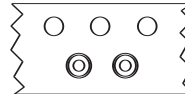
Also available in  
Carrier Tape (1260T)  
(for 16mm Tape Feeder)



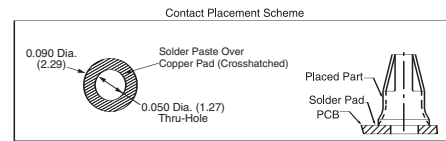
## SMT Bottom Entry, Through-Board Socket



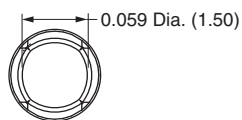
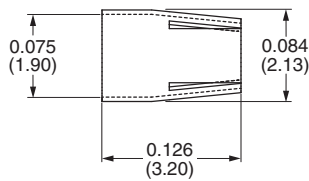
<b>Loose Part No.</b>	1280
<b>Taped Part No.</b>	1280T
<b>Mating Pin Size</b>	0.038–0.044" (0.97–1.12mm) Dia Round Pins
<b>Material Thickness/ Type</b>	0.005" (0.13mm) Beryllium Copper
<b>Standard Finish</b>	Bright Tin over Copper
<b>Feeder System</b>	Standard Tape Feeder for Taped Parts



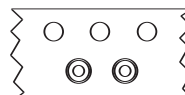
Also available in  
Carrier Tape (1280T)  
(for 16mm Tape Feeder)



## SMT Bottom Entry, Through-Board Socket



<b>Loose Part No.</b>	1279
<b>Taped Part No.</b>	1279T
<b>Mating Pin Size</b>	0.062–0.066" (1.57–1.68mm) Dia Round Pins
<b>Material Thickness/ Type</b>	0.005" (0.13mm) Beryllium Copper
<b>Standard Finish</b>	Bright Tin over Copper
<b>Feeder System</b>	Standard Tape Feeder for Taped Parts



Also available in  
Carrier Tape (1279T)  
(for 16mm Tape Feeder)

