

# SMT Pins

## Features and Benefits

- Individual pins can be randomly placed.
- Pins don't float during reflow.
- Pins are reliably perpendicular.
- Zierick offers pins that are designed for  $.100^{\circ}$  on-center applications.
- Certain pins can be selectively plated.
- Many can be produced in different lengths or with different materials for higher conductivity.
- Others provide Z-Axis (axial) compliancy and/or can be used in parallel PCB stacking applications.
- All are designed for automation using the customer's existing pick and place equipment and a special feeder.
- No time-consuming hand placement or costly fixturing is required



## Produkt Discription

SMT pins and posts are specially designed for high-reliability PCB interconnection applications. They are available in many lengths and diameters.

To reduce the applied cost and increase interconnection reliability, Zierick utilizes the capillary action of reflowing solder to prevent the component from floating and moving on top of the melted solder, and 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: 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.

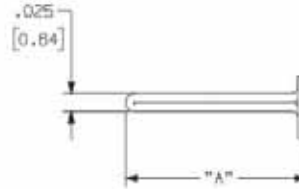
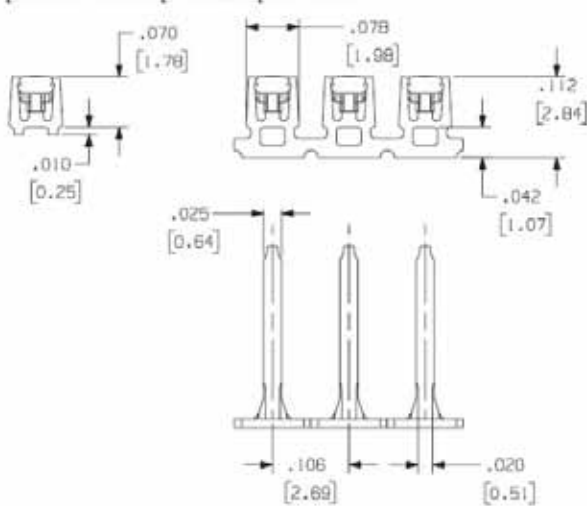
As the solder paste reflows, flux and other active ingredients in the solder cause out-gassing. These gases get trapped under a relatively large surface like the base of the pin. The trapped gasses create voids in the solder that are clearly visible when the pin is pulled off or the solder joint is cross-sectioned. Pins that employ capillary action have fewer and smaller voids because the capillary tube provides a way for gasses to escape.

## Part Numbers 1216, 6216, 1222, 6222, 6246

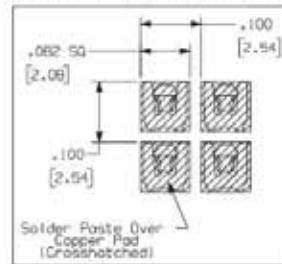
U.S. Patent Nos. 5,632,629, 5,695,348, 5,730,608, 5,816,868 and other U.S. and international patents

Zierick recommends .006" stencil thickness for most applications. For other stencil thicknesses, call Zierick's product development department.

Loose Part No.	1216	1222	
Reeled Part No.	6216	6222	6246
Pin Length (L)	0.375* (9.53mm)	0.250* (6.35mm)	0.375* (9.53mm)
Material Thickness / Type	0.012" (0.30mm) Brass		0.012" (0.30mm) CDA 155 Copper
Standard Finish	100% Tin over Copper		
Current Rating	8 Amperes		
Feeder System	Surf-Shooter SMT™ Continuous Strip Feeder		



### Recommended Solder Pad Geometry

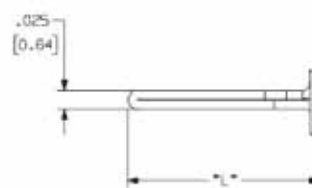
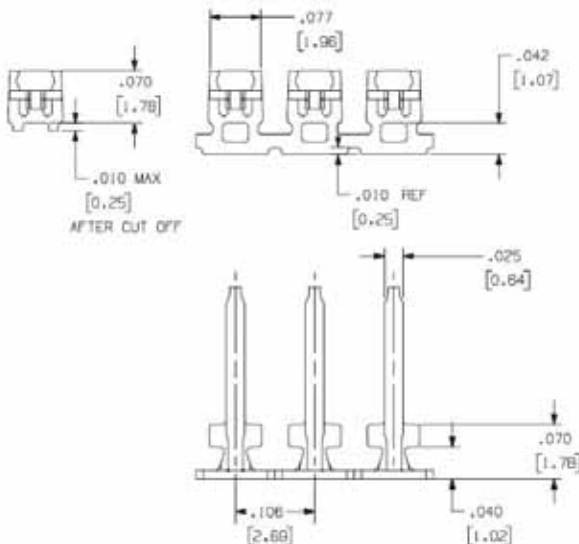


## Part Numbers 6239, 6240

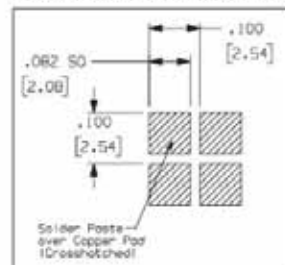
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Zierick recommends .006" stencil thickness for most applications. For other stencil thicknesses, call Zierick's product development department.

<b>Reeled Part No.</b>	6239	6240
<b>Pin Length (L)</b>	0.250" (6.35mm)	0.375" (9.53mm)
<b>Material Thickness / Type</b>	0.012" (0.30mm) Brass	
<b>Standard Finish</b>	100% Tin over Copper	
<b>Current Rating</b>	8 Amperes	
<b>Feeder System</b>	Surf-Shooter SMT™ Continuous Strip Feeder	



### Recommended Solder Pad Geometry



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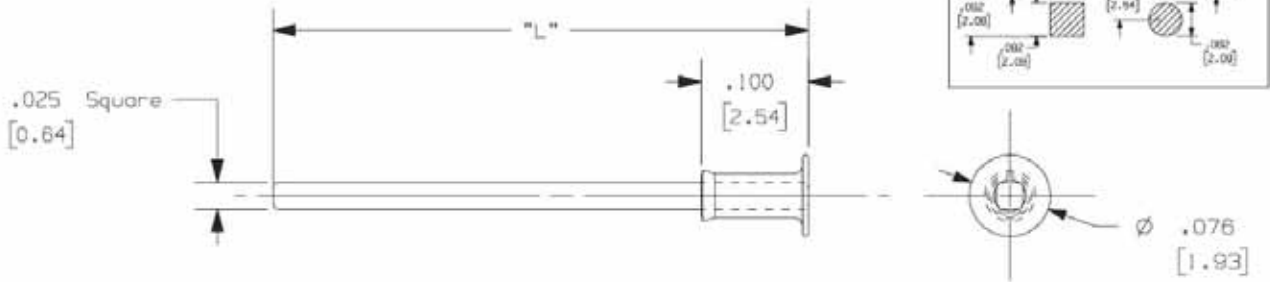
## Part Numbers

**A1-250, A1-375, A1-421,  
A1-500, A1-625, A1-750**

U.S. Patent Nos. 5,632,629, 5,816,868 and other U.S. and international patents

Zierick recommends .006" stencil thickness for most applications. For other stencil thicknesses, call Zierick's product development department.

Loose Part No.	A1-250	A1-375	A1-421	A1-500	A1-625	A1-750
Dim 'L'	0.250" (6.35mm)	0.375" (9.53mm)	0.421" (10.69mm)	0.500" (12.70mm)	0.625" (15.88mm)	0.750" (19.05mm)
Pin Width	0.025" (0.64mm) Square					
Standard Finish	100% Tin over Copper					
Current Rating	8/Pin					
Feeder System	Pin-Shooter SMT Loose Piece Feeder (Pin Shooter)					



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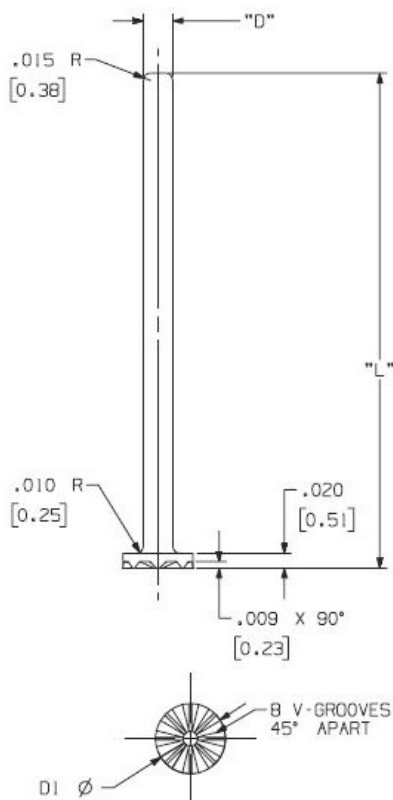
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**Part Numbers**  
**A2-375-0, A2-495-0,**  
**A2-532-0, A2-670-0,**  
**A2-680-0, A3-595-0,**  
**A3-625-0, A3-680-0,**  
**A3-800-0, A4-375-0,**  
**A4-625-0, A4-680-0**

U.S. Patent Nos. 5,632,629,  
 5,695,348, 5,730,608, 5,816,868  
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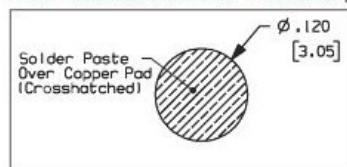
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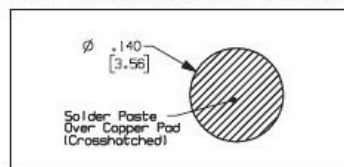
Part No.	DESCRIPTION	L*	D	D1	PAD	CURRENT RATING
A2-375-0	0.040" (1.02mm) Dia x 0.375" (9.53mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.375" (9.53mm)	0.040" (1.02mm)	0.095" ±0.005" (2.41mm ±0.127mm)	A	15 Amperes
A2-495-0	0.040" (1.02mm) Dia x 0.495" (12.57mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.495" (12.57mm)	0.040" (1.02mm)	0.095" ±0.005" (2.41mm ±0.127mm)	A	15 Amperes
A2-532-0	0.040" (1.02mm) Dia x 0.532" (13.51mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.532" (13.51mm)	0.040" (1.02mm)	0.095" ±0.005" (2.41mm ±0.127mm)	A	15 Amperes
A2-670-0	0.040" (1.02mm) Dia x 0.670" (17.02mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.670" (17.02mm)	0.040" (1.02mm)	0.095" ±0.005" (2.41mm ±0.127mm)	A	15 Amperes
A2-680-0	0.040" (1.02mm) Dia x 0.680" (17.27mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.680" (17.27mm)	0.040" (1.02mm)	0.095" ±0.005" (2.41mm ±0.127mm)	A	15 Amperes
A3-595-0	0.060" (1.52mm) Dia x 0.595" (15.11mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.595" (15.11mm)	0.060" (1.52mm)	0.120" ±0.005" (3.05mm ±0.127mm)	B	20 Amperes
A3-625-0	0.060" (1.52mm) Dia x 0.625" (15.88mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.625" (15.88mm)	0.060" (1.52mm)	0.120" ±0.005" (3.05mm ±0.127mm)	B	20 Amperes
A3-680-0	0.060" (1.52mm) Dia x 0.680" (17.27mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.680" (17.27mm)	0.060" (1.52mm)	0.120" ±0.005" (3.05mm ±0.127mm)	B	20 Amperes
A3-800-0	0.060" (1.52mm) Dia x 0.800" (20.32mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.800" (20.32mm)	0.060" (1.52mm)	0.120" ±0.005" (3.05mm ±0.127mm)	B	20 Amperes
A4-375-0	0.080" (2.03mm) Dia x 0.375" (9.53mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.375" (9.53mm)	0.080" (2.03mm)	0.140" ±0.010" (3.56mm ±0.254mm)	C	25 Amperes
A4-625-0	0.080" (2.03mm) Dia x 0.625" (15.88mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.625" (15.88mm)	0.080" (2.03mm)	0.140" ±0.010" (3.56mm ±0.254mm)	C	25 Amperes
A4-680-0	0.080" (2.03mm) Dia x 0.680" (17.27mm) long Solid Copper SMT Post; 100% Tin over CDA 11000	0.680" (17.27mm)	0.080" (2.03mm)	0.140" ±0.010" (3.56mm ±0.254mm)	C	25 Amperes

Feeder System: Pin-Shooter SMT Loose Piece Feeder (Pin Shooter)

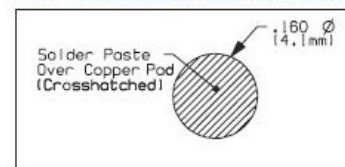
**Pad A - Recommended Solder Pad Geometry**



**Pad B - Recommended Solder Pad Geometry**



**Pad C - Recommended Solder Pad Geometry**



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

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