

# SMT

## Fine Wire Connectors

### Features and Benefits

- This product features four wire housing holes and four individual piercing blades that can accommodate from 32 to 26 AWG solid, stranded, or tinsel wire.
- It eliminates the need to solder wires to the PCB.
- Four wires can be terminated simultaneously without being stripped first.
- A more durable wire connection is assured.
- The Fine Wire Connector uses minimal PCB real estate.
- The plastic housing resists high reflow temperatures and provides excellent wire protection.
- It can be automatically fed using standard tape and reel.



### Produkt Discription

Another product in Zierick's growing line of insulation piercing connectors is the Surface Mount 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.

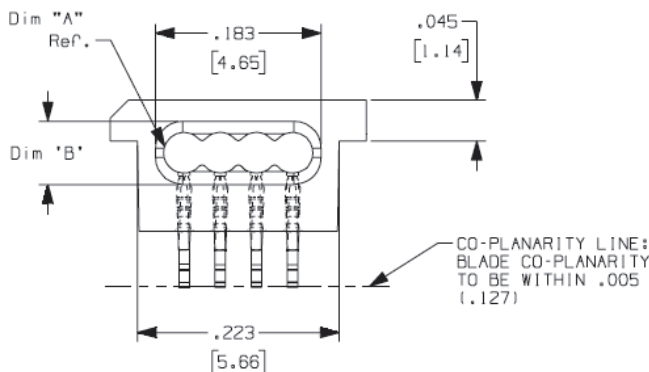
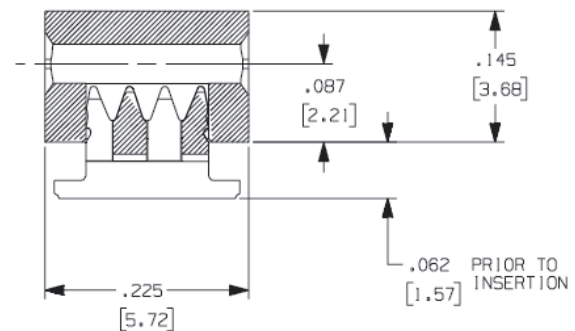
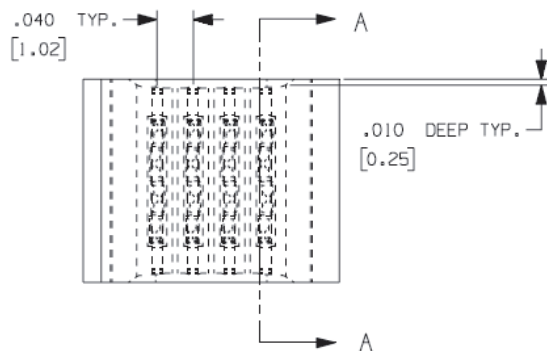
### Assembly Process

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.

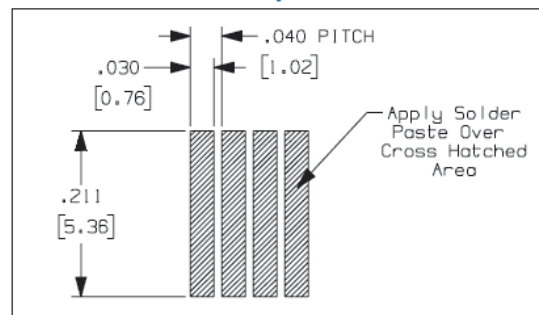
**Part Numbers**  
**IPC-4-35, IPC-4-35-T,**  
**IPC-4-35-T-SR,**  
**IPC-4-45, IPC-4-45-T,**  
**IPC-4-45-T-SR**

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

	Physical	
Loose Part No.	IPC-4-35	IPC-4-45
Taped Part No.	IPC-4-35-T	IPC-4-45-T
Small Reel Part No.	IPC-4-35-T-SR	IPC-4-45-T-SR
Wire Accommodation	From 32 AWG to 28 AWG solid, stranded or tinsel wire; with insulation diameter of 0.025" - 0.032"	From 32 AWG to 26 AWG solid, stranded or tinsel wire; with insulation diameter of 0.033" - 0.043" IPC-4-45 has an ID chamfer in the plastic housing.
Contact Plating	0.000150" Min 100% Tin over .000100 Min Copper	
Termination Force	Approx. 80 lbs (for 4 wire)	
Insulation Material	PPS GS-40 40% glass filled	
Contact Material	CDA 260 Brass	
UL Flammability Rating	94V-0	
	<b>Electrical</b>	
Current Rating/Wire Size	28 AWG 2 Amp., 30-32 AWG 2 Amp.	
Insulation Resistance	> 1 x 10 <sup>9</sup> Ω @ 500 VDC	
Contact Resistance	< 20 mΩ	
Withstanding Voltage	500 VRMS @ Sea Level	
	<b>Environmental</b>	
Reflow Temperature	500°F Max, 260°C Max	
Operating Temperature	-67°F to 221°F, (-55°C to 105°C)	
	U.S. Patent No. 7,320,616	



**Recommended Solder Pad Geometry**



## SMT Fine Wire Connectors

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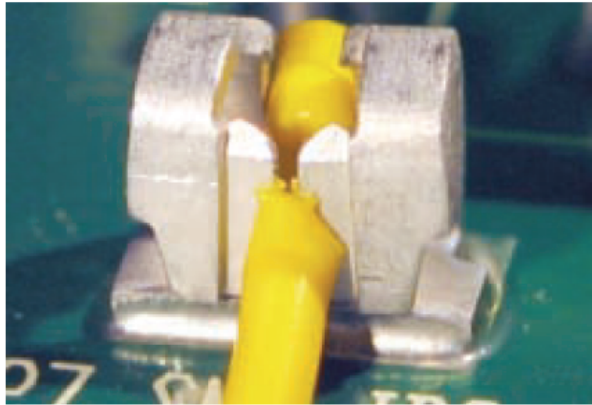
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# SMT Insulation Displacement Connectors

## Features and Benefits

- IDCs are designed for demanding applications with shock, vibration, and elevated temperatures
- The need for hand soldering wires to the board is eliminated.
- They are a surface mount version of a proven through-hole IDC.
- They have a low profile.
- They terminate a large range of wire gauges
- IDCs don't float during reflow.
- Zierick's IDCs are designed for automation using the customer's existing pick and place equipment and a standard tape feeder.

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



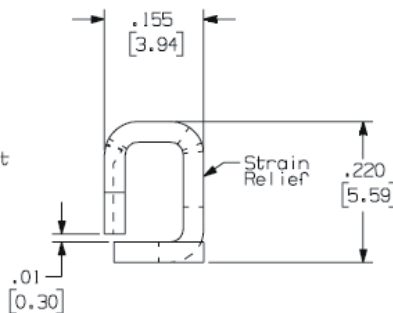
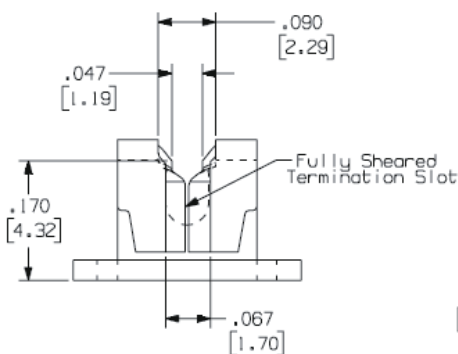
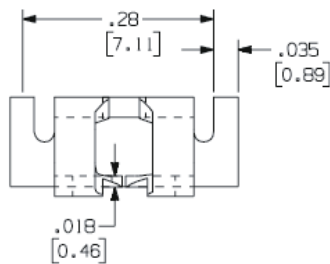
soldering wires to the PCB. It was also designed to be automated by the customer's existing pick and place equipment using standard taping methods. This is a surface mount version of a proven through-hole connector. It is re-usable, has a low profile, and is geographically stable. Our family of SMT IDCs can terminate a large range of stranded or solid wire gauges.

It has a proven track record for withstanding shock and vibrations associated with automotive applications.

The Reverse Mount IDC was designed for through-board applications where the wires must be connected on the side opposite the other components on the PCB.

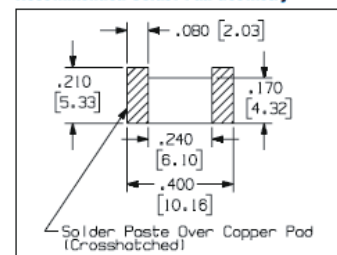
## Part Numbers 1227, 6227

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

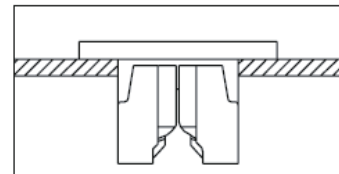


Loose Part No.	1227
Reeled Part No.	6227
Material Thickness / Type	0.032" (0.81mm) Brass
Standard Finish	100% Tin over Copper
Current Rating	20 Amperes
Feeder System	Surf-Shooter SMT™ Continuous Strip Feeder
Wire Gauge Range	#26-18 AWG Wire insertion tool required. Consult factory.
	U.S. Patent No. 5,695,348 and other international patents

## Recommended Solder Pad Geometry



## Actual Use



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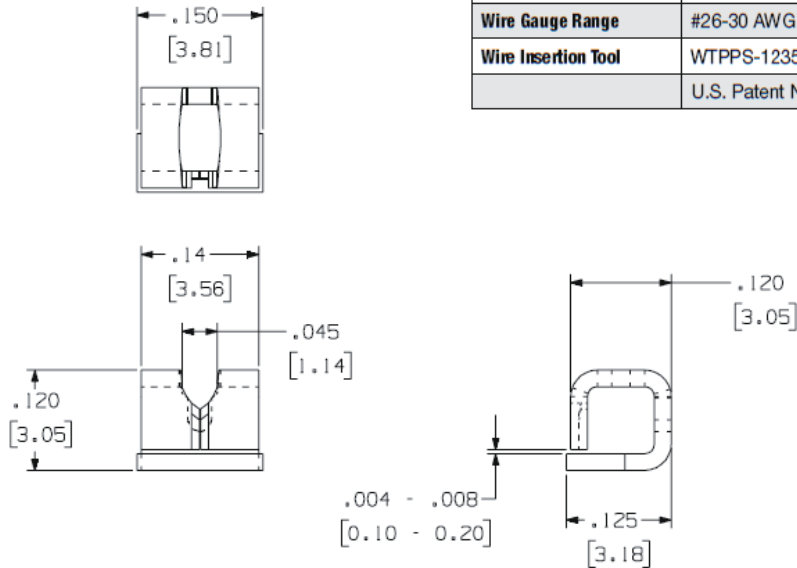
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# SMT Insulation Displacement Connectors

## Part Numbers

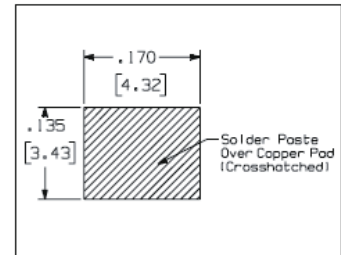
### 1235, 1235T, 1235T-SR

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



Loose Part No.	1235	
Taped Part No.	1235T	1235T-SR
Material Thickness / Type	0.020" (0.51mm) Brass	
Standard Finish	100% Tin over Copper	
Current Rating	20 Amperes	
Feeder System	N/A	Standard 12mm Tape Feeder
Wire Gauge Range	#26-30 AWG	
Wire Insertion Tool	WTPPS-1235-1: Pneumatic Production Tool	
	U.S. Patent No. 5,695,348 and other international patents	

#### Recommended Solder Pad Geometry

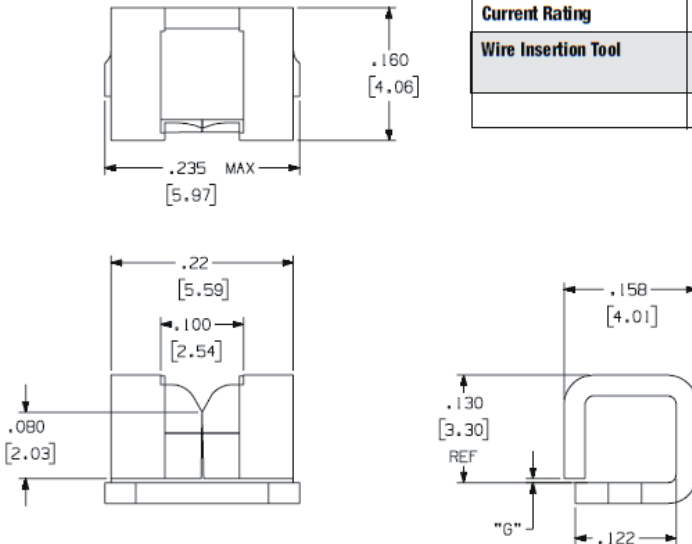


For drawings of our taped parts, please search for this part number on our website, [www.zierick.com](http://www.zierick.com).

## Part Numbers

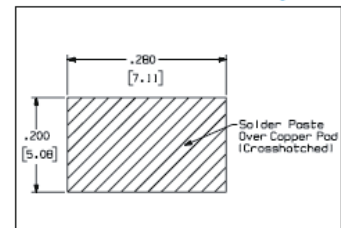
### 1245, 1245T, 1245T-SR, 1296, 1296T

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



Loose Part No.	1245	1296
Taped Part No.	1245T	1245T-SR
Gap Dimension "G"	0.005" (0.13mm)	0.005 - 0.013" (0.13 - 0.33mm)
Material Thickness / Type	0.025" (0.64mm) Brass	
Standard Finish	100% Tin over Copper	
Feeder System	Standard 12mm Tape Feeder	
Wire Gauge Range	#26-18 AWG	
Current Rating	10 Amperes	
Wire Insertion Tool	WTP-4ALL: Prototype Tool WTPPS-1208-1: Pneumatic Production Tool	
	U.S. Patent No. 5,695,348 and other international patents	

#### Recommended Solder Pad Geometry



For drawings of our taped parts, please search for this part number on our website, [www.zierick.com](http://www.zierick.com).

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# SMT Insulation Piercing Connectors

## Features and Benefits

- This Zierick product is the most economical way to terminate wire to a surface mount board.
- It has a very small footprint.
- It is capable of carrying high current.
- No separate strain relief is required.
- It has a high resistance to wire flexing and axial and radial pull forces.
- It lends itself to high speed automated termination.
- Designed to be bulk fed with a special feeder, thus eliminating the need for costly taping.
- It is also available in taped format for low volume users.



This method of termination combines the advantages of crimping, insulation piercing, and surface mount technology into a highly reliable and economical way to terminate wires. The system consists of a surface mount terminal and a crimping machine which makes the termination.

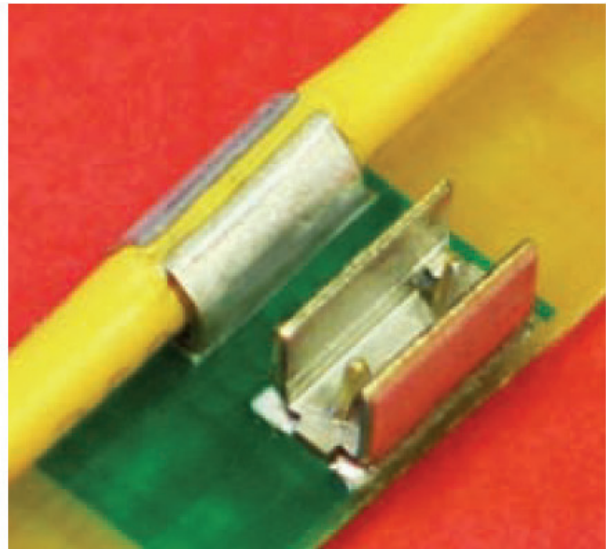
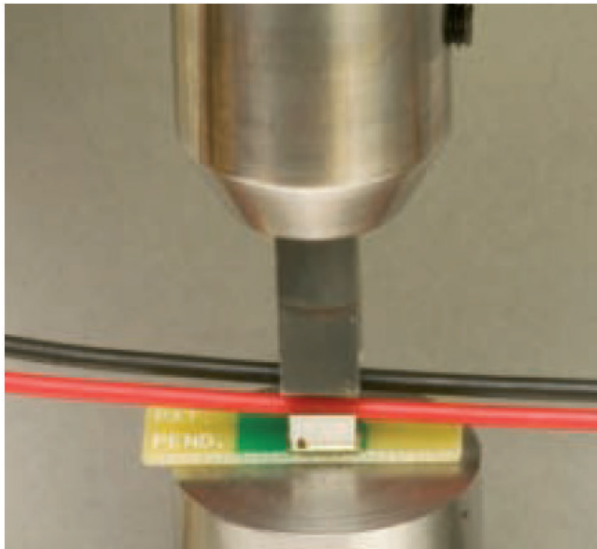
The terminal has a flat base and two side walls perpendicular to the base. Two insulation piercing

contact spikes protrude from the flat base. Between the contact spikes there is a flat area to facilitate vacuum pick-up and terminal placement. There are two deep score lines near the transition area between the side wall and the base of the terminal.

Compared to conventional methods, this system is less expensive than a two piece pin/socket connection or an IDC (insulation displacement

connector) type of connection which provides strain relief. It is also more cost effective than soldering wires to a board by hand. In comparison, it also takes up very little area on the pcb.

The utilization of well proven crimping and insulation piercing technology guarantees the long term reliability of this connection.



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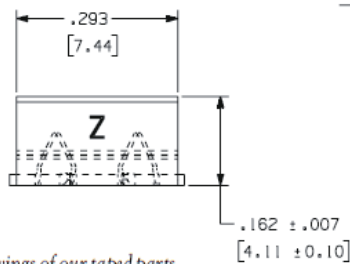
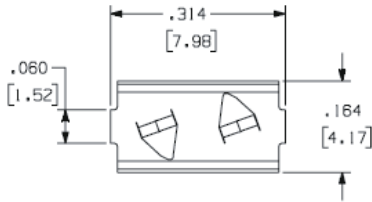
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# SMT Insulation Piercing Connectors

## Part Numbers 1293, 1293T, 1293T-SR

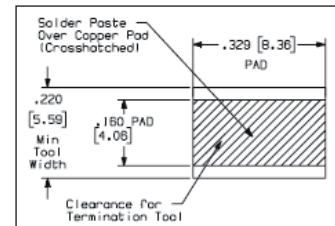
Zierick recommends .006" stencil thickness for most applications. For other stencil thicknesses, call Zierick's product development department.



For drawings of our taped parts, please search for this part number on our website, [www.zierick.com](http://www.zierick.com).

Loose Part No.	1293			
Taped Part No.	1293T			
Small Reel Part No.	1293T-SR			
Wire Sizes (For Stranded Wire)	12 AWG	14 AWG		16 AWG
(Insulation Outside Diameter)	.125 in.	.111 in.	.130 in.	.124 in.
Material Thickness / Type	0.020" (0.51mm) Pre-Plated Brass			
Standard Finish	Pre-finished 100% Matte Tin over Copper. Edges will be bare.			
Feeder System	Standard 16mm Tape Feeder for PN 1293T			
Crimping System	Mini Press (for high volume applications) Versa-Crimp (for low volume applications) WTC-1293-1 (for low volume and/or field terminations)			
	U.S. Patent No. 7,591,666 B2 and other U.S. and international patents			

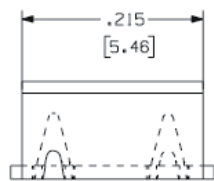
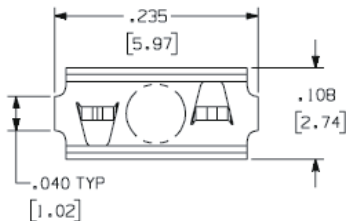
### Recommended Solder Pad Geometry



Note: For side by side placement consult factory for center-to-center spacing.

## Part Numbers 1286, 1286T, 1286T-SR

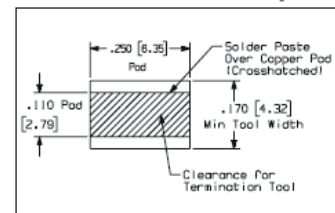
Zierick recommends .006" stencil thickness for most applications. For other stencil thicknesses, call Zierick's product development department.



For drawings of our taped parts, please search for this part number on our website, [www.zierick.com](http://www.zierick.com).

Loose Part No.	1286						
Taped Part No.	1286T						
Small Reel Part No.	1286T-SR						
Wire Sizes (For Stranded Wire)	16 AWG	18 AWG				20 AWG	
(Insulation Outside Diameter)	.077 in.	.068 in.	.078 in.	.080 in.	.068 in.	.073 in.	.082 in.
Material Thickness / Type	0.016" (0.41mm) CDA 260 Brass						
Standard Finish	Pre-finished 100% Matte Tin over Copper. Edges will be bare.						
Feeder System	Standard 12mm Tape Feeder for PN 1286T						
Crimping System	Mini Press (for high volume applications) Versa-Crimp (for low volume applications) WTC-1286-1 (for low volume and/or field terminations)						
	U.S. Patent No. 7,591,666 B2 and other U.S. and international patents						

### Recommended Solder Pad Geometry



Note: For side by side placement consult factory for center-to-center spacing.

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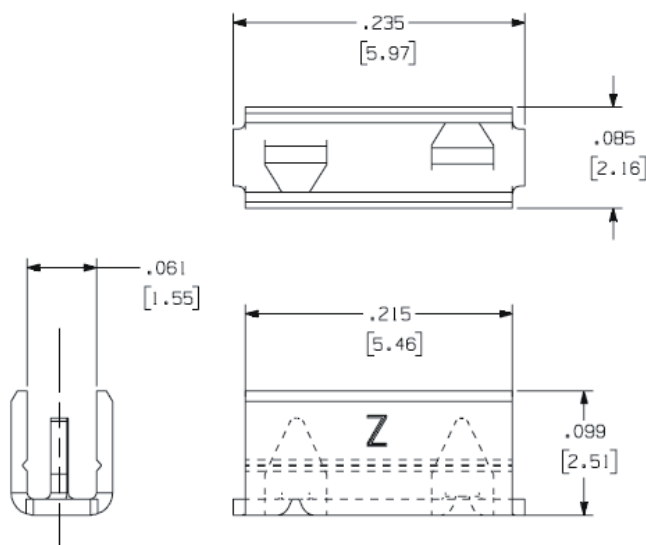
# SMT Insulation Piercing Connectors

## Part Numbers 1295, 1295T, 1295T-SR

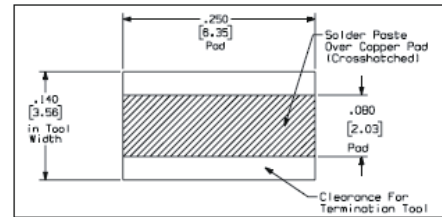
Zierick recommends .006" stencil thickness for most applications. For other stencil thicknesses, call Zierick's product development department.

For drawings of our taped parts please search for this part number on our website, [www.zierick.com](http://www.zierick.com).

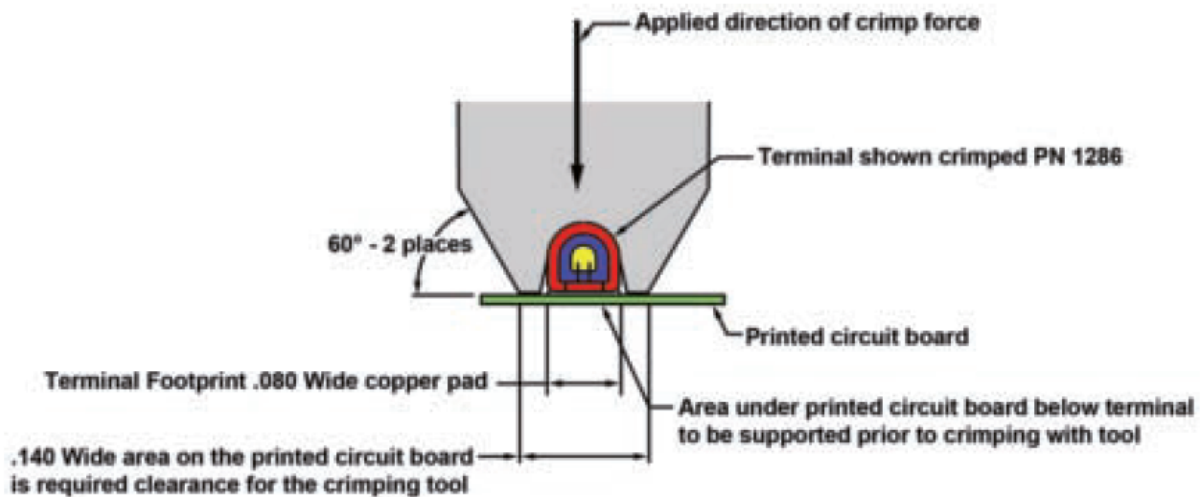
Loose Part No.	1295				
Taped Part No.	1295T				
Small Reel Part No.	1295T-SR				
Wire Sizes (For Stranded Wire)	20 AWG		22 AWG		
(Insulation Outside Diameter)	.045 in.	.050 in.	.061 in.	.053 in.	.058 in.
Material Thickness / Type	0.012" (0.30mm) Pre-Plated Brass				
Standard Finish	Pre-finished 100% Matte Tin over Copper. Edges will be bare.				
Feeder System	Standard 16mm Tape Feeder				
Crimping System	Mini Press (for high volume applications) Versa-Crimp (for low volume applications) WTC-1295-1 (for low volume and/or field terminations)				
	U.S. Patent No. 7,591,666 B2 and other U.S. and international patents				



### Recommended Solder Pad Geometry



Note: For side by side placement consult factory for center-to-center spacing.



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# SMT Zip Cord Connectors

## Part Number 1300-KAPTON-T

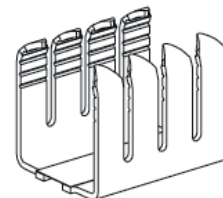
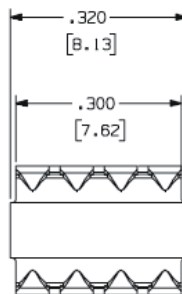
### Features and Benefits

- This Zierick product is one of the most economical ways to terminate wire to a surface mount board.
- Part placement can be automated.
- It has high resistance to shock and vibration.
- There is no need to strip the cord.
- The wire is terminated by using a Zierick crimping press.
- The part is available in taped format.

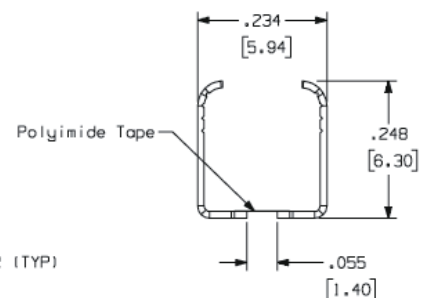
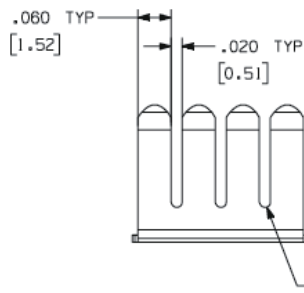


This Surface Mount Zip Cord connector is comprised of two identical parts, turned so the connector spikes face each other. The parts are held in the correct configuration for the AWG of the Zip Cord, and placed in Tape Pockets for easy nozzle pick-up.

<b>Taped Part No.</b>	1300-KAPTON-T
<b>Wire Size</b>	Approximately .100"x.200" 18 AWG paired conductor wire
<b>Material Thickness / Type</b>	.012 CDA-260 Brass
<b>Standard Finish</b>	Pre-finished 100% Matte Tin over Copper. Edges will be bare.
<b>Crimping System</b>	MP-1000 Crimping Machine (for high volume applications) Versa-Crimp (for low volume applications)
<b>Feeder System</b>	Standard 24mm Tape Feeder
Zierick recommends .006" stencil thickness for most applications. For other stencil thicknesses, call Zierick's product development department.	



Because of the variations of the outside diameter of the insulation and the diameter of the conductor, it is highly recommended that each wire be tested to insure a proper connection to the wire. Current rating is dependent on wire sizes. Consult factory. See the website for all pad layouts and new part numbers for different wire gauges.



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