



<b>Product Specification :</b>	ISSUED BY: Engineering Dept	
<b>Subject :</b> 3.96mm Pitch SCT3961 Series Connector Specification	Date Issued	2011/08/16
	Date Revised	2013/08/28

This specification is referred to the 3.96mm series wire to board connector

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## 1. Scope

This Specification Covers the 3.96mm Pitch SCT3961 Series Connector Specification.

## 2. Spec and Part number

Specification	Production No.	Picture of Product
Terminal	SCT3961TPS109	NONE
Housing	SCT3961H-xxCWT109	NONE
Wafer	SCT3961WR-xxB0WT108 SCT3961WV-xxB0WT108	NONE

## 3. Disposal of Material and surface

Specification	Materials	Disposal of Surface
Terminal	Phosphor Bronze /Brass	1.Tin Plated: Over 70μ" .Nickel: Over 30μ" . 2.Tin Plated: Over 40μ" .Nickel: Over 10μ" .
Housing	PA66	UL 94V-0
Wafer	Base	PA66
	PIN	Brass

(Please Refer to the Project drawing for the above Specification)

## 4. Ratings and applicable wires

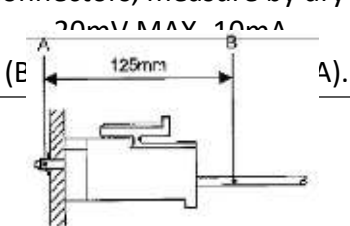
Item	Standard	
Rated Voltage (Max.)	250V	[AC/DC]
Rated Current (Max.)	7.0A	
Ambient temperature Range	-25℃~+85℃	
Applicable wire insulation O.D	AWG 18#~22# Insulation O.D. 3.00mm(Max.)	

\*Including terminal temperature rise.

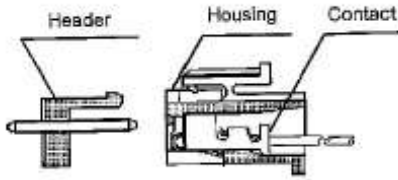
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## 5. PERFORMANCE

### 5-1. Electrical Performance.

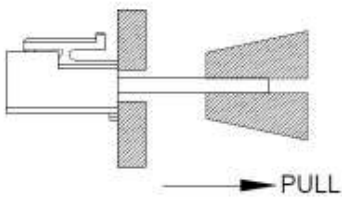
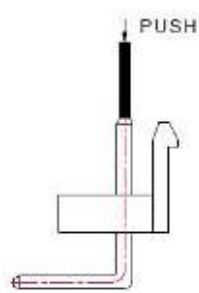
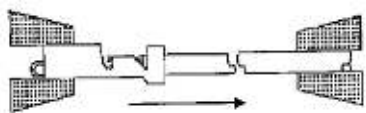
Item	Test Condition	Requirement
5-1-1 Contact Resistance	Mate connectors, measure by dry circuit, $20\text{mV MAX}$ , $10\text{mA}$ . 	Initial: 10 milliohms Max. After Test: 20 milliohms Max.
5-1-2 Insulation Resistance	Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon EIA-364-21B/MIL-STD-202 Method 302 Cond.B)	1000 Megohms Min.
5-1-3 Dielectric Strength	Mate connectors, apply 800V AC for 1 minute between adjacent terminal or ground. (Based upon EIA-364-20A/MIL-STD-202 Method 301)	No Breakdown and Flashover
5-1-4 Contact resistance on crimped portion	Crimp the applicable wire on to the terminal measure by dry circuit $20\text{mV MAX}$ , $10\text{mA}$ .	10 milliohms Max.

### 5-1. Electrical Performance

Item	Test Condition	Requirement
5-2-1 Insertion & Retention Force	Insert and withdraw Connectors at the speed rate of $25.4\pm 3\text{mm/minute}$ . 	Refer to paragraph 6

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### 5-2. Mechanical Performance.

Item	Test Condition	Requirement								
5-2-2 Terminal /Housing Retention Force	Apply axial pull out force at the rate of 25.4±3mm/minute terminal assembled in the housing. 	29.4N {3.0kgf} Min.								
5-2-3 Terminal Insertion Force	Insert the crimped terminal into the housing.	14.7N {1.5kgf} Max.								
5-2-4 Pin Retention Force	Apply axial push force at the speed of 25.4±3mm/minute. 	29.4N {3.00kgf} Min.								
5-2-5 Tensile strength (Crimped connections)	Fix the crimped terminal, apply axial pull out force on the wire. (Do not crimp insulation part).	<table border="1"> <tr> <td>AWG#</td> <td>#18</td> <td>#20</td> <td>#22</td> </tr> <tr> <td>Spec.kgf. Min.</td> <td>8.0</td> <td>6.5</td> <td>4.5</td> </tr> </table>	AWG#	#18	#20	#22	Spec.kgf. Min.	8.0	6.5	4.5
	AWG#	#18	#20	#22						
Spec.kgf. Min.	8.0	6.5	4.5							
	Note> As for unspecified wire sizes in this specification define values with clients									

### 5-3. Environmental Performance and Others.

Item	Test Condition	Requirement		
5-3-1 Repeated Insertion/ Withdrawal	When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.	<table border="1"> <tr> <td>Contact Resistance</td> <td>20 milliohms Max.</td> </tr> </table>	Contact Resistance	20 milliohms Max.
Contact Resistance	20 milliohms Max.			



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Item		Test Condition	Requirement	
5-3-2	Temperature Rise	Carrying rated current load. (UL 1977)	Temperature rise	30°C Max.
5-3-3	Vibration	Amplitude: 1.5mm P-P Sweep time: 10~55~10 HZ in 1 minute Duration: 2 hours in each X.Y.Z axials. (Based upon EIA-364-28B/MIL-STD-202 Method 213B Cond.A)	Appearance	No Damage
			Contact Resistance	20 milliohms Max.
			Discontinuity	1 micro-second Max.
5-3-4	Shock	490m/s <sup>2</sup> {50G}, 3 strokes in each X.Y.Z. axes. (Based upon EIA-364-27B/MIL-STD-202 Method 213B Cond.A)	Appearance	No Damage
			Contact Resistance	20 milliohms Max.
			Discontinuity	1 micro-second Max.
5-3-5	Heat Resistance	85±2°C, 96 hours. (Based upon MIL-STD-202 Method 108A Cond.A)	Appearance	No Damage
			Contact Resistanc	20milliohms Max.
5-3-6	Cold Resistance	-25±5°C, 96 hours. ( Based upon EIA-364-105)	Appearance	No Damage
			Contact Resistanc	20milliohms Max.
5-3-7	Humidity	Temperature: 40±2°C Relative Humidity: 90~95% Duration: 96 hours (Based upon EIA-364-31A/MIL-STD-202 Method 103B Cond.B)	Appearance	No Damage
			Contact Resistance	20milliohms Max.
			Dielectric Strength	Must meet 5-1-3
			Insulation Resistance	500Megohms Min.
5-3-8	Temperature Cycling	5 cycles of: a) -55°C 30 minutes. b) +85°C 30 minutes. (Based upon EIA-364-32B)	Appearance	No Damage
			Contact Resistance	20milliohms Max.



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Item		Test Condition	Requirement	
5-3-9	Salt Spray	24±1 hours exposure to a salt spray from the 5±1% solution at 35±2°C. (Based upon EIA-364-26A/MIL-STD-202 Method 101D Cond.B).	Appearance	No Damage
			Contact Resistance	20milliohms Max.
5-3-10	Solder-ability	Soldering Time: 5±0.5second. Solder Temperature: 245±5°C. (Based upon EIA-364-52)	Solder Wetting	95% of immersed area must show no voids, pin holes.
5-3-11	Solder-Resistance	Soldering time:5~10 sec solder. Temperature:255+5/-5°C. (Based upon EIA-364-56A)	Appearance	No Damage

## 6. INSERTION/WITHDRAWAL FORCE <Connector mating force>

No. of CKT	First Insertion (kgf Max.)	30 <sup>th</sup> Withdrawal (kgf Min.)	No. of CKT	First Insertion (kgf Max.)	30 <sup>th</sup> Withdrawal (kgf Min.)
Single	1.00	0.10	06	5.50	0.80
02	2.00	0.10	07	6.00	0.85
03	3.00	0.15	08	7.00	0.90
04	4.00	0.20	09	7.50	0.95
05	4.50	0.25	10	8.00	1.00

Note:Insertion and Withdrawal for 30Cycles