Product Specification :	ISSUED BY:	Engineering Dept
Subject : 4.20mm Pitch SCT4201 Series Connector Specification	Date Issued	2012/09/08
	Date Revised	2013/09/09

This specification is referred to the 4.20mm series wire to board connector

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1. Scope

This Specification Covers the 4.20mm Pitch SCT4201 Series Connector Specification.

2. Spec and Part number

Specification	Production No.	Picture of Product
Terminal	SCT4201FTPS103 SCT4201FTPS115H SCT4201MTBS103L SCT4201MTPS115H	NONE
Housing	SCT4201FH-xxCNA103 SCT4201FH-2xxBNA103 SCT4201MH-xxCNA103 SCT4201MH-2xxBNA103 SCT4201FNA-xxxxx103 SCT4201FNA-2xxCNA103	NONE
Wafer	SCT4201WR-xxC0NA103 SCT4201WR-2xxC0NA103 SCT4201WV-xxC0NA103 SCT4201WV-2xxC0NA103 SCT4201WRE-xxC0NA103 SCT4201WRE-2xxC0NA103 SCT4201WRF-xxC0NA103 SCT4201WRF-2xxC0NA103 SCT4201WVA-2xxC0NA103 SCT4201WVAF-2xxC0NA103	NONE

3. Disposal of Material and surface

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

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

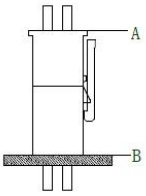
4. Ratings and applicable wires

Item	Standard	
Rated Voltage (Max.)	600V	[AC/DC]
Rated Current (Max.)	9.0A	
Ambient temperature Range	-25℃~+85℃	
Applicable wire insulation O.D	AWG 16#~24# Insulation O.D. 3.10mm(Max.)	

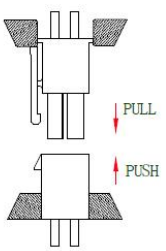
*Including terminal temperature rise.

5. PERFORMANCE

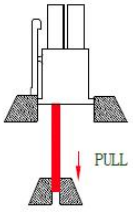
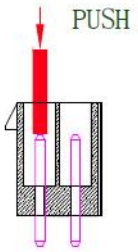
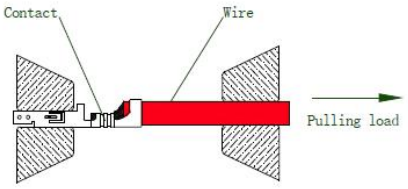
5-1. Electrical Performance.

Item		Test Condition	Requirement
5-1-1	Contact Resistance	Mate connectors, measure by dry circuit, 20mV MAX, 10mA. (Based upon EIA-364-06A). 	Initial: 10 milliohms Max. After Test: 30 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 1000V 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 20mV MAX, 10mA.	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±3mm/minute. 	Refer to paragraph 6

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. 	30N {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. 	9.8N {1.0kgf} 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). 	AWG # | #16 | #18 | #20 | #22 | #24 Spec. kgf. Min. | 9.0 | 9.0 | 6.0 | 4.0 | 3.0 Note> As for unspecified wire sizes in this specification define values with clients

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.	Contact Resistance	20 milliohms Max.

5-3. Environmental Performance and Others.

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Item		**Test Condition**	**Requirement**	
5-3-2	Temperature Rise	Carrying rated current load. (UL 1977)	Temperature rise	30℃ 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^2{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℃,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℃,96 hours. (Based upon EIA-364-105)	Appearance	No Damage
			Contact Resistanc	20milliohms Max.
5-3-7	Humidity	Temperature: 40±2℃ 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℃30 minutes. b) +85℃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℃. (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:3±0.5second. Solder Temperature: 245±5℃. (Based upon EIA-364-52)	Solder Wetting	95% of immersed area must show no voids, pin holes.
5-3-11	Solder-Resistance	Soldering time:3~5 sec solder. Temperature:255+5/-5℃. (Based upon EIA-364-56A)	Appearance	No Damage

6. INSERTION/WITHDRAWAL FORCE <Connector mating force>

No. of CKT	First Insertion (kgf Max.)	30th Withdrawal (kgf Min.)	No. of CKT	First Insertion (kgf Max.)	30th Withdrawal (kgf Min.)
02	3.00	0.10	08	9.00	0.70
03	4.00	0.20	09	10.00	0.80
04	5.00	0.30	10	11.00	0.90
05	6.00	0.40	11	12.00	1.00
06	7.00	0.50	12	13.00	1.10
07	8.00	0.60			
Double Row					
2*01	3.00	0.1	2*07	15.00	0.7
2*02	5.00	0.2	2*08	17.00	0.8
2*03	7.00	0.3	2*09	19.00	0.9
2*04	9.00	0.4	2*10	21.00	1.0
2*05	11.00	0.5	2*11	23.00	1.1
2*06	13.00	0.6	2*12	25.00	1.2

Note:Insertion and Withdrawal for 30Cycles