Title Subject： 4.2mm Center Spacing Wire To Board Connector (Dual Rows)

Model Number： 4200F，4200M，4203TF，4203TM，4201P，4202P Series

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Approved by:		Prepared by:	JEFF 27/JUN/13’	Rev.	I

1. PRODUCT DESCRIPTION

1-1

Part Name	Series Number	Material	Surface Finish
Housing（Female）	4200FXX0X-X 4200FXX1X-X 4200FXXA0-X 4200FXXA2-X 4200FAX0X-X	Nylon 66	UL94V-0／94V-2
Housing（Male）	4200MXX0X-X 4200MXXAX-X 4200MXXBX-X 4200MAX0X-X	Nylon 66	UL94V-0／94V-2
Terminal（Female）	4203TFXXX 4203TFXXX-1	Phosphor Bronze／Brass	Tin／Select Gold-Plated／ Matte tin-plated
Terminal（Male）	4203TMXXX 4203TMXXX-1	Phosphor Bronze／Brass	Tin／Select Gold-Plated／ Matte tin-plated
Straight Header	4201PXX0XX-X 4201PXX1XX-X 4201PXX2XX-X 4201PXXAXX-X 4201PAX00X-X 4201PXX1XX-X	Base : Nylon 66 Pin : Brass	UL94V-0／94V-2 Matte Tin／Tin／Gold-Plated
Right Angle Header	4202PXX0XX-XXXX 4202PXX1XX-XXXX 4202PXX2XX-XXXX 4202PXX2XX-2 4202PAX0XX-XXXX	Base : Nylon 66 Pin : Brass	UL94V-0／94V-2 Matte Tin／Tin／Gold-Plated

1-2 Current Rating:

1-2-1 Current Rating of Terminal : (When mating 2-circuits connectors)

	16 AWG	18 AWG	20 AWG	22 AWG	24 AWG
Brass	9.0 A	9.0 A	7.0 A	5.0 A	4.0 A
Phosphor Bronze	8.0 A	8.0 A	6.0 A	4.0 A	3.0 A

1-2-2 Current Rating of Connector：（When AWG #16 applied）

Series	Circuits			
	2 -3	4 - 6	7 - 10	12 - 24
Phosphor Bronze／Brass	9.0 A	8.0 A	7.0 A	6.0 A

1-3 Voltage Rated：600V AC, DC

1-4 Temperature Range：- 40℃ to + 105℃

1-5 Applicable Wire Size：AWG #16 to AWG #28

1-6 Applicable P.C.B. Thickness：1.6 mm

2. ELECTRICAL PERFORMANCE

2-1 Contact Resistance：

Test Condition: Mate connectors, measure by dry circuit, 20 mV max. , 100 mA.

Requirements : 10 mΩ max.（Initial）, 20 mΩ max.（After environmental test）

2-2 Insulation Resistance：

Test Condition: Mate connectors, apply 500V DC between adjacent terminal or ground.

Requirements : 1000 MΩ min.（Initial）, 1000 MΩ min.（After environmental test）

2-3 Dielectric Strength：

Test Condition: Mate connectors, apply 1500V AC（Initial）and 1500V AC（After environmental test）for 1 minute between adjacent terminal or ground.

Requirements : No Breakdown.

3. MECHANICAL PERFORMANCE

3-1 Insertion Force and Withdrawal Force：

Test Condition: Insert and withdraw connectors at the speed rate of 25±3mm／minute.

Requirements : Insertion Force：1.5 Kg max.（Per circuit）

Withdrawal Force：0.1 Kg min.（Per circuit）

3-2 Crimping Pull Out Force：

Test Condition: Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of 25±3mm／minute.

Requirements : AWG16：10.0 Kg（min.） AWG18：8.0 Kg（min.）

AWG20： 6.0 Kg（min.） AWG22：4.0 Kg（min.）

AWG24： 3.0 Kg（min.） AWG26：2.0 Kg（min.）

AWG28： 1.0 Kg（min.）

3-3 Terminal／Housing Retention Force：

Test Condition: Apply axial pull out force at the speed rate of 25±3mm／minute on the terminal assembled in the housing.

Requirements : 3.0 Kg min.

3-4 Pin Retention Force：

Test Condition: Apply axial push force at the speed rate of 25±3mm／minute.

Requirements : 3.0 Kg min. (Test sample is not put on any soldering process before test)

4. ENVIRONMENTAL PERFORMANCE AND OTHERS

4-1 Humidity：

Test Condition: Temperature： 40 ± 2℃, Relative humidity：90 to 95% , Duration：96 hours

Requirements : Appearance：No damage

Contact Resistance：20 mΩ max., Insulation Resistance：1000 MΩ min.

Dielectric Strength：1500V AC for 1 minute no breakdown.

4-2 Durability：

Test Condition: When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.

Requirements : Appearance：No damage, Contact Resistance：20 mΩ max.

4-3 Heat Aging：

Test Condition: Temperature：105 ± 2℃, Duration：96 hours

Requirements : Appearance：No damage, Contact Resistance：20 mΩ max.

4-4 Thermal Shock：

Test Condition: 1 cycle consists of：

a) －55 ± 3℃ for 30 minutes b) +105 ± 2℃ for 30 minutes

Times of cycles：5 cycles

Requirements : Appearance：No damage

Contact Resistance：20 mΩ max., Insulation Resistance：1000 MΩ min.

Dielectric Strength：1500V AC for 1 minute no breakdown.

4-5 Salt Spray：

Test Condition: Temperature：35 ± 2℃, Density：5% in weight, Duration：48 hours

Requirements : Appearance：No damage

Contact Resistance：20 mΩ max.

4-6 Vibration：

Test Condition: Sweep time：10-55-10 Hz in 1 minute, Amplitude：1.52 mm P-P

Duration：2 hours in each X. Y. Z. axes

Requirements : Appearance：No damage

Contact Resistance：20 mΩ max., Discontinuity：1 μsec. max.

4-7 Solderability：

Test Condition: Solder temperature：245 ± 5℃, Solder time：5 ± 0.5 sec.

Requirements : The inspected area of each lead must have 95% solder coverage minimum.

4-8 Resistance to Soldering Heat：

Test Condition: Solder temperature：265 ± 5℃., Solder time：10 ± 1 sec.

Requirements : There shall be no deformation nor damage which may affect the performance.

4-9 Resistance to Soldering Heat by soldering iron：

Test Condition:

Specimen shall be mounted on a PCB and soldered by soldering iron of the following conditions. After test, appearance shall be inspected with naked eyes.

No abnormal load such as lateral load shall be applied.

Temperature of the tip：350 ± 5℃

Period of soldering： 3 ± 0.5 sec.

Flux：Rosin methanol 25% solution

Requirements : There shall be no deformation nor damage which may affect the performance.