

Title Subject : 2.0mm Center Spacing Wire To Board Connector ( Dip-Type )

Part Number : 2001S , 2005T , 2002P , 2003P Series

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1. PRODUCT DESCRIPTION

1-1	Part Name	Part Number	Material	Surface Finish
	Housing	2001SXX00 2001SXX00-X	Nylon 66	UL94V-0
	Terminal	2005T011X	Phosphor Bronze	T: Tin-Plated V: Matte Tin-Plated
	Straight Header	2002PXX X0X 2002PXX X0X-XNXX 2002PXX N0X 2002PXX00X-1	Base : Nylon 66  Pin : Brass	UL94V-0  T: Reflow Tin-Plated
	Right Angle Header	2003PXX X0X 2003PXX X0X-XNXX 2003PXX N0X	Base : Nylon 66  Pin : Brass	UL94V-0  T: Reflow Tin-Plated

Remark: XX: Circuit NO., "X ": Plating No., "-X" : Color No., NXX: Type of Void Pin

1-2 Current Rated : 2A AC, DC ( When AWG #24 applied )

1-3 Voltage Rated : 100V AC, DC

1-4 Temperature Range : -40°C to + 85°C

1-5 Applicable Wire Size : AWG #24 to AWG #28

1-6 Applicable P.C.B. Thickness : 0.8 mm to 1.6 mm

1-7 Applicable P.C.B. Hole Dia. :  $\phi$  0.8 mm

2. ELECTRICAL PERFORMANCE

2-1 Contact Resistance :

Test Condition: Mate connectors, measure by dry circuit, 20 mV max. , 10 mA.

Requirements : 10 m $\Omega$  max. ( Initial )

20 m $\Omega$  max. ( After environmental test )

2-2 Insulation Resistance :

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

Requirements : 1000 M $\Omega$  min. ( Initial )

500 M $\Omega$  min. ( After environmental test )

2-3 Dielectric Strength :

Test Condition: Mate connectors, apply 800V AC ( Initial ) and 500V AC ( After environmental test )  
for 1 minute between adjacent terminal or ground.

Requirements : No Breakdown.

**3. MECHANICAL PERFORMANCE****3-1 Insertion Force (I.F.) and Withdrawal Force (W.F.) :**

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

Requirements :

No. of Circuits	At Initial		At 50th
	I.F. (max.)	W.F. (min.)	W.F. (min.)
Single	0.7 Kg	0.1 Kg	0.08 Kg
2P	2.5 Kg	0.8 g	0.60 Kg
3P	3.0 Kg	0.8 Kg	0.60 Kg
4P	3.5 Kg	1.0 Kg	0.80 Kg
5P	4.0 Kg	1.0 Kg	0.80 Kg
6P	4.5 Kg	1.2 Kg	1.00 Kg
7P	5.0 Kg	1.2 Kg	1.00 Kg
8P	5.5 Kg	1.4 Kg	1.20 Kg
9P	6.0 Kg	1.4 Kg	1.20 Kg
10P	.5 Kg	1.6 Kg	1.40 Kg
11P	7.0 Kg	1.6 Kg	1.40 Kg
12P	7.5 Kg	1.8 Kg	1.60 Kg
13P	7.5 Kg	1.8 Kg	1.60 Kg
14P	8.0 Kg	2.0 Kg	1.80 Kg
15P	8.0 Kg	2.0 Kg	1.80 Kg
16P	9.5 Kg	2.6 Kg	2.20 Kg

**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 : 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 : 1.5 Kg min.

**3-4 Pin Retention Force :**

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

Requirements : 1.0 Kg min.

**1. ENVIRONMENTAL PERFORMANCE AND OTHERS****4-1 Temperature Rise :**

Test Condition: Carrying rated current load.

Requirements : Temperature rise : 30°C max.

**4-2 Durability :**

Test Condition: When mated up to 50 cycles repeatedly by the rate of 10 cycles per minute.

Requirements : Contact Resistance : 20 mΩ max.

## 4-3 Humidity :

Test Condition: Temperature :  $40 \pm 2^{\circ}\text{C}$ , Relative humidity : 90 to 95%  
Duration : 240 hours

Requirements : Appearance : No damage, Contact Resistance :  $20\text{ m}\Omega$  max.  
Insulation Resistance :  $500\text{ M}\Omega$  min.  
Dielectric Strength : 500V AC for 1 minute no breakdown.

## 4-4 Heat Aging :

Test Condition: Temperature :  $85 \pm 2^{\circ}\text{C}$   
Duration : 250 hours

Requirements : Appearance : No damage  
Contact Resistance :  $20\text{ m}\Omega$  max.

## 4-5 Thermal Shock :

Test Condition: Times of cycles : 25 cycles, each cycle consists of :

- a)  $-55 \pm 3^{\circ}\text{C}$  for 30 minutes
- b)  $+85 \pm 2^{\circ}\text{C}$  for 30 minutes

Requirements : Appearance : No damage, Contact Resistance :  $20\text{ m}\Omega$  max.  
Insulation Resistance :  $500\text{ M}\Omega$  min.  
Dielectric Strength : 500V AC for 1 minute no breakdown.

## 4-6 Salt Spray :

Test Condition: Temperature :  $35 \pm 2^{\circ}\text{C}$   
Density : 5% in weight, Duration : 48 hours

Requirements : Appearance : No damage  
Contact Resistance :  $20\text{ m}\Omega$  max.

## 4-7 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 :  $20\text{ m}\Omega$  max.  
Discontinuity :  $1\ \mu\text{sec}$ . max.

## 4-8 Solderability :

Test Condition: Solder temperature :  $240 \pm 5^{\circ}\text{C}$   
Solder time :  $2 \pm 0.5\text{ sec}$ .

Requirements : Plating surface of solder-dipping section shall be covered with smooth solder.

## 4-9 Resistance to Wave-Soldering Heat :

Test Condition: Solder temperature : (Nylon 66)  $260 \pm 5^{\circ}\text{C}$   
Solder time : (Nylon 66)  $5 \pm 1\text{ sec}$ .

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

## 4-10 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 :  $350 \pm 5^{\circ}\text{C}$

Period of soldering :  $3 \pm 0.5\text{ sec}$ .

Flux : Rosin methanol 25% solution

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