

## PRODUCT SPECIFICATION

### 【1. SCOPE】

This specification covers the 4.0mm BOARD-IN CONNECTOR series.

### 【2. PRODUCT NAME AND PART NUMBER】

Product Name	Part Number
Terminal	50098-8*00
Housing	51036-**00

\*\* : Number of Circuits  
Refer to the attached drawing.

### 【3. RATINGS AND APPLICABLE WIRES】

Item	Standard	
Rated Voltage (MAX.)	250 V	
Rated Current (MAX.) and Applicable wires	KV 0.3 AWG.#22	3.0 A*1
	KV 0.5 AVS 0.5 AWG.#20	4.0 A*1
	KV 0.85 AVS 0.85 AWG.#18	5.0 A*1
[ AC (rms) / DC ] Insulation O.D.: ∅2.6mm MAX.		
Ambient Temperature Range	-40°C ~ +105°C*2	

\*1 : In case of f;powing MAX.current ,dimensions size of land and pattern on P.C.B. should be considered.

\*2 : Including terminal temperature rise.

### 【4. PERFORMANCE】

#### 4-1. Electrical Performance:

Item	Test Condition	Requirement
4-1-1 Insulation Resistance	Apply 500V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2/MIL-STD-202 Method 302 Cond.B)	1000MΩ MIN.
4-1-2 Dielectric Strength	Apply 1000V AC for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No Breakdown
4-1-3 Contact Resistance on Crimped Portion	Crimp the applicable wire on to the terminal, measure by dry circuit, 20mV MAX., 10mA.	5mΩ MAX.

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## 4-2. Mechanical Performance:

50098/51036

Item		Test Condition	Requirement	
4-2-1	Insertion and Withdrawal Force (To PCB.)*3	Insert and withdraw at the speed rate of $25 \pm 3$ mm/minute to P.C. Board.	Insertion	1.5 Kgf MAX.
			Withdrawal	0.1 Kgf MIN.
4-2-2	Crimping pull Out Force	Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of $25 \pm 3$ mm/minute. (Based upon JIS C5402 6.8)	KV 0.3 AWG.#22	4.0 Kgf MIN.
			KV 0.5 AVS 0.5 AWG.#20	6.0 Kgf MIN.
			KV 0.85 AVS 0.85 AWG.#18	9.0 Kgf MIN.
4-2-3	Terminal/ Insertion Force	Insert the crimped terminal into the housing.	1.5 Kgf MAX.	
4-2-4	Terminal/ Housing Retention Force	Apply axial pull out force at the speed rate of $25 \pm 3$ mm/minute on the terminal assembled in the housing.	1.5 Kgf MIN.	

\*3 : MX-PCB-3( $\phi$ 1.0,1.6t,Drill Hole)is in general use.

## 4-3. Environmental Performance and Others:

Item		Test Condition	Requirement	
4-3-1	Temperature Rise	Carrying rated current load. (Based upon UL 498)	30°C MAX.	
4-3-2	Heat Resistance	105 $\pm$ 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond.A)	Appearance	No Damage
			Contact Resistance On Crimped Portion	10m $\Omega$ MAX.
4-3-3	Cold Resistance	-40 $\pm$ 3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance On Crimped Portion	10m $\Omega$ MAX.

Item		Test Condition	Requirement	
4-3-4	Humidity	Temperature: $60 \pm 2^{\circ}\text{C}$ Relative Humidity: 90~95% Duration: 96 hours  (Based upon JIS C0022/MIL-STD-202 Method 103B Cond.B)	Appearance	No Damage
			Dielectric Strength	Must meet 4-1-2
			Insulation resistance	100M $\Omega$ MIN.
			Contact Resistance On Crimped Portion	10m $\Omega$ MAX.
4-3-5	Salt Spray	$48 \pm 4$ hours exposure to a salt spray from the $5 \pm 1\%$ solution at $35 \pm 2^{\circ}\text{C}$ . (Based upon JIS C5028/MIL-STD-202 Method 101D Cond.B)	Appearance	No Damage
			Contact Resistance On Crimped Portion	10m $\Omega$ MAX.
4-3-6	SO <sub>2</sub> Gas	24 hours exposure to $50 \pm 5$ ppm. SO <sub>2</sub> gas at $40 \pm 2^{\circ}\text{C}$ .	Appearance	No Damage
			Contact Resistance On Crimped Portion	10m $\Omega$ MAX.
4-3-7	NH <sub>3</sub> Gas	40 minutes exposure to NH <sub>3</sub> gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance On Crimped Portion	10m $\Omega$ MAX.
4-3-8	Solder-ability	Soldering Time: $3 \pm 0.5$ sec Solder Temperature: $230 \pm 5^{\circ}\text{C}$	75% of immersed area must show no voids, pin holes	
4-3-9	Resistance to Soldering Heat	Soldering Time: $5 \pm 0.5$ sec Solder Temperature: $260 \pm 5^{\circ}\text{C}$	No Damage	

**[5. PRODUCT SHAPE, DIMENSIONS AND MATERIALS]**

Refer to the drawing.