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**PRODUCT NO : B2011 SERIES****1. Scope :**

This product specification contains the test results that general performances of B2011 SERIES connector were examined.

**2. Part name & part number :**

Part name	Part number
Housing	B2011H
Terminal	B2011-T

**3. Construction, dimensions, material & surface finish :**

Construction and dimensions shall be in accordance with the referenced drawings.

Material and surface finish shall be as specified below.

Part name	Material	Surface finish
Housing	Nylon 66	UL 94V-0
Terminal	Brass	Gold over NickelTin over Nickel
	PHosphor Bronze	Gold over NickelTin over Nickel

**4. Characteristics :**

Current rating : 1A AC,DC

Voltage rating : 250V AC,DC

Temperature range : -40°C ~ 105°C

**5. Conditions :**

The conditions shall be in accordance with the referenced drawing of next page.

Number	Item	Requirement
(1)	Bend up	4° max.
	Bend down	4° max.
	Twisting	3° max.
	Rolling	8° max.
(2)	Bell mouth (flare)	0.2-0.5 mm
(3)	Cut-off tab length	0.2 mm max.
(4)	Extruded wire length	0-0.5 mm
(5)	Seam	Seam shall not be opened and no wire allowed out of crimping area
	Wire strip length	1.2-1.7 mm ref.
(8)	Lance height	0.3 mm ref.

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## 6. Mechanical test :

## 6.1 Crimp width、 crimp height &amp; crimp strength

After crimping , the crimped areas [ (6)、 (7)] should be as follows.

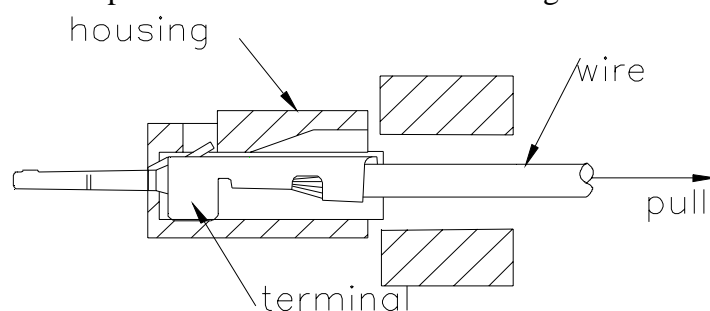
Wire Size (AWG)	Terminal Part Number	Conductor(mm)		Insulation(mm)		Crimp Strength (Kg)
		Crimp Width	Crimp Height	Crimp Width	Crimp Height	
# 24	B2011-T	1.2±0.15	0.55~0.65	1.40 (max)	1.30(max)	3.00(mix)
# 26			0.45~0.55		1.10(max)	1.80(mix)
# 28			0.40~0.45		1.00(max)	1.00(mix)

Note : no distorted after terminal crimped.

## 6.2 Contact retention force

(1) Requirement : 1.0 Kg (min.)

(2) Test method : Crimped terminal shall be mounted in a housing (HV) and pulled in an alignment. The load to pull the terminal out of the housing shall be measured.



(3) Test results :

Max.	Min.	Ave.	N=10
2.25	1.75	1.98	

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## 7. Electrical test :

### 7.1 Contact resistance

- (1) Requirement : Initial : 10 m (max.)  
After environmental test : 20 m (max.)
- (2) Condition : Test current : 10 mA (DC)  
Open voltage : 20mV (max.)

(3) Test result : See items 8.1 ~ 8.3

### 7.2 Insulation resistance

- (1) Requirement : Initial : 1000 M (min.)  
After humidity test : 500 M (min.)  
After thermal shock test : 500 M (min.)
- (2) Test method : DC 800V shall be applied between outer surface of housing and terminal and between adjacent terminals to measure insulation resistance.  
(MIL-STD-202 , test method 302 , condition B)

(3) Test result : See items 8.1 & 8.3

### 7.3 Dielectric withstanding voltage

- (1) Requirement : There shall be no breakdown nor flashover.
- (2) Test method : Initially AC 800V (rms) and after humidity and thermal shock tests AC V (rms) shall be applied between outer surface of housing and terminal and between adjacent terminals for one minutes. (MIL-STD-202 , test method 301)  
Test current : 1mA

(3) Test result : See items 8.1 & 8.3

## 8. Environment test :

### 8.1 Humidity

- (1) Requirement : Contact resistance shall be 30 milliohms (max.) after the test. Insulation resistance shall be 500 megohms (min.) after the test. There shall be no breakdown nor flashover on dielectric withstanding voltage test.
- (2) Test method : Mated connector shall be placed in a humidity chamber of the following conditions. After the test , contact resistance , insulation resistance and dielectric withstanding voltage shall be measured. (MIL-STD-202 , test method 103 , condition A)  
Temperature : 40 ±2 °C  
Humidity : 90% ~ 95% (RH)  
Period : 240 hours continuously

(3) Test results :

Test item	Initial (m )			After test (m )		
Contact resistance	Max.	Min.	Ave.	Max.	Min	Ave
	6.32	4.35	5.54	6.72	4.56	5.61

N=30

Test item	Housing-Terminal (M )		Terminal-Terminal (M )	
Insulation resistance	Initial	After test	Initial	After test
	1000min	500min	1000min	500min

N=20

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Test item	Housing-Terminal (M )		Terminal-Terminal (M )		N=20
D.W.V.	Initial	After test	Initial	After test	
	Good	Good	Good	Good	

( D.W.V. : Dielectric withstanding voltage )

## 8.2 Salt spray

- (1) Requirement : Contact resistance shall be 20 milliohms (max.) after the test.  
 (2) Test method : Mated connector shall be subjected to salt spray test of the following conditions. After the test, specimen shall be washed with running water and dried naturally before the measurement of contact resistance.

Temperature :  $40 \pm 2$  °C

Humidity : 90% ~ 95% (RH)

Period : 8 or 16 or 24 or 32 or 48 hours

- (3) Test result :

Test item	Initial (m )			After test (m )			N=30
Contact resistance	Max.	Min.	Ave.	Max.	Min.	Ave.	
	7.02	5.34	6.44	7.13	5.81	6.57	

## 8.3 Thermal shock

- (1) Requirement : Contact resistance shall be 20 milliohms (max.) after the test. Insulation resistance shall be 500 megohms (min.) after the test. There shall be no breakdown nor flashover on dielectric withstanding voltage test.  
 (2) Test method : Mated connector shall be subjected to thermal shock test of the following conditions. After the test , contact resistance , insulation resistance and dielectric withstanding voltage shall be measured.

1 cycle consists of :

-55 °C for 30 minutes

+85 °C for 30 minutes

Times of cycles : 25 cycles

- (3) Test results :

Test item	Initial (m )			After test (m )			N=20
Contact resistance	Max.	Min.	Ave.	Max.	Min.	Ave.	
	7.01	5.39	6.25	7.46	5.63	7.12	

Test item	Housing-Terminal (M )		Terminal-Terminal (M )	
Insulation resistance	Initial	After test	Initial	After test
	1000min	500min	1000min	500min

Test item	Housing-Terminal (M )		Terminal-Terminal (M )		N=20
D.W.V.	Initial	After test	Initial	After test	
	Good	Good	Good	Good	

D.W.V. : Dielectric withstanding voltage



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#### 8.4 Solderability

(1) Requirements : Solder-dipping section shall be covered by solder entirely.

(2) Test method : Fluxed soldering section of shrouded header shall be dipped in solder of the following conditions.

Solder temperature :  $235 \pm 5$  °C

Immersion period : 3-5 seconds

(3) Test result : Good.

#### 8.5 Resistance to soldering heat

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

(2) Test method : Specimen shall be mounted on a PCB (inserted only) and subjected to resistance to soldering heat test of the following conditions.

Solder temperature :  $250 \pm 5$  °C

Immersion period : 3-5 seconds

(3) Test result : Good.