



***COMTEK ELECTRONICS. CO., LTD.***

**PRODUCT SPECIFICATION**

**PRODUCT NAME**

**BATTERY CONNECTOR**

**SPECIFICATION NUMBER**

**SP-BAT-001**

**DOC. NO.:**

**AUTHOR:**

**DATE:**

**REV.: A**

**APPROVED**

**SIGNED:**

**DATE:**

**CHECKED**

**SIGNED:**

**DATE:**



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## 1.0 SCOPE

This specification defines the performance for the Mobile Phone Battery Connector

## 2.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See drawings and any other sections of this specification for the relevant reference documents. In cases where the product specification differs from the product drawings, the product drawings take precedence.

## 3.0 RATINGS

3.1. Current rating	1.0A operating current
3.2. Voltage rating	100VDC
3.3. Durability	5,000 mating cycles
3.4. Operating Temperature	-40°C to +80°C
3.5. Storage Temperature	-55°C to +85°C HR 60%~90%



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## 4.0 MATERIAL SPECIFICATIONS

4.1. Plastic Body: Liquid Crystal Polymer (LCP+30%GF)

4.2. Contacts : BE-CU Alloy (JIS C17200R-H)

Contacts Plating:

Contact area: Gold (10 micro inches Min.)

Solder area: Gold Flash

All Under- plated : Ductile Nickel (50 micro inches Min.)

4.3 Cover: SUS304R-H

## 5.0 ELECTRICAL PERFORMANCE SPECIFICATIONS

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
5.1. Contact Resistance	Mated connector with dry circuit of 20mV, 100mA max.	Initial: 50 m $\Omega$ (Max) At Stroke 1.4mm
5.2. Insulation Resistance	Unmated connector with 500VDC for 1 minute between adjacent contacts	1,000M $\Omega$ (Min).
5.3. Withstanding Voltage	Unmated connector with 350VAC for 1 minute between adjacent contacts.	3mA Leakage (Max)



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## 6.0 MECHANICAL PERFORMANCE SPECIFICATIONS

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
6.1. Durability	Mate contacts at rate of 10 cycles per minute max. to 5,000 cycles	Appearance-No damage, Initial Contact Resistance: 50m $\Omega$ (Max.) Final contact resistance: 100m $\Omega$ (Max.)
6.2. Vibration	Frequency : 10-55-10Hz Amplitude: 1.5mm (Max.) and 10G(Max.) Sweep time 1 minute Duration: 2 hrs in each X,Y,Z axes total 6 hrs	<10 $\mu$ second discontinuity Initial Contact Resistance: 50m $\Omega$ (Max.) In final contact resistance: 100m $\Omega$ (Max.)
6.3.Physical Shock	Pulse shape: Half-sine pulse Peak acceleration: 50G(490m/s <sup>2</sup> ) Duration: 11ms Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimens (18shocks).	<10 $\mu$ second discontinuity No crack Initial Contact Resistance: 50m $\Omega$ (Max.) Final contact resistance: 100m $\Omega$ (Max.)
6.4. Normal Force	Stroke 1.4mm	Initial :150 $\pm$ 20g Final:100g(Min.)
6.5Retention Force	Measured by pulling the Contact which have been Inserted into the plastic body at the speed of 0.2mm/s	Per Pin 300g(Min)



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## 7.0 ENVIRONMENTAL PERFORMANCE SPECIFICATIONS

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
7.1. Solder heart proof	See graph 1	Appearance and function no damage
7.2. Salt Spray	5±1% salt solution duration 48 hours. Temperature:35±2°C Connectors detached.	100mΩ (Max.) In final contact resistance.
7.3. Humidity	40±2°C duration 48 hrs. 90-95%R.H Recovery 1-2 hrs in std. Condition.	Test insulation resistance No damage Final Insulation Resistance 500mΩ (Min.)
7.4. Thermal shock	Temp:-55 to 85°C Time: 30min to 30 min Transit time shall be within 3 Min Test Duration is 5 cycles	Final Contact Resistance: 100mΩ max Insulation Resistance: 1,000mΩ min No damage such as crack or Looseness, insulation damages.

## 8.0 PACKING

8.1 SMT Battery connector	Carry Type Carry Tape width Carry Tape pitch	Tape& Reel 24 mm 16mm
8.2	Parts shall be packaged to protect against damage during handing, transportation and storage.	