# MINI USB CONN., RCPT, V/T, DIP, B TYPE

## 1. INTRODUCTION

### 1.1. Purpose

Testing was performed on the **MINI USB CONN., RCPT, V/T, DIP, B TYPE** connector to determine its conformance to the requirements of Product Specification 108-57509 Rev O.

### 1.2. Scope

This report covers the electrical, mechanical, and environmental performance of **MINI USB CONN., RCPT, V/T, DIP, B TYPE** manufactured by the Global Personal Computer Division.

### 1.3. Conclusion

**MINI USB CONN., RCPT, V/T, DIP, B TYPE** connector meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57509 Rev O.

### 1.4. Product Description

**MINI USB CONN., RCPT, V/T, DIP, B TYPE** connector is designed for printed circuit board applications. The contacts are copper alloy, gold plated on the contact interface and Tin-Cu plating on the solder tail, all over nickel under-plated. The housing material is glass filled insulating polymer, UL94V-0.

### 1.5. Test Samples

The test samples were randomly selected from normal current production lots, and the following part numbers were used for test:

| Test Group | Quantity | Description |
|---|---|---|
| A, B, C, D, E | 5 ea. | **MINI USB CONN., RCPT, V/T, DIP, B TYPE** |



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. This specification is a controlled document.

## 1.6. Qualification Test Sequence

| Test or Examination | Test Group | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| | Test Sequence (a) | | | | |
| Examination of product | 1,11 | 1,5 | 1,7 | 1,4 | 1,3 |
| Low Level Contact Resistance | 3,8 | 2,4 | | | |
| Insulation Resistance | | | 3 | | |
| Dielectric Withstanding Voltage | | | 4 | | |
| Contact Capacitance | | | 2 | | |
| Contact Current Rating | | | | 2 | |
| Random Vibration | 6 | | | | |
| Physical Shock | 7 | | | | |
| Durability | 5 | | | | |
| Connector Mating Force | 2,10 | | | | |
| Connector Unmating Force | 4,9 | | | | |
| Thermal Shock | | | 5 | | |
| Humidity | | | 6 | | |
| Temperature Life (see note c) | | 3 | | | |
| Solderability | | | | 3 | |
| Resistance to Soldering Heat | | | | | 2 |

Figure 1.

NOTE: (a) The numbers indicate sequence in which tests were performed.

## 2. TEST RESULT

| GP | TEST | SPEC. | DATA | | | |
|---|---|---|---|---|---|---|
| | | | Max. | Min. | Mean | σ |
| A | Contact Mating force | 3.57Kgf Max. | 2.44 | 2.04 | 2.23 | 0.4 |
| | Low Level Contact Resistance | 50 MΩ Max | 15.24 | 11.12 | 13.63 | 4.12 |
| | Contact Unmating force | 0.71Kgf Min | 1.88 | 1.63 | 1.75 | 0.25 |
| | Durability | 5000 Cycles | OK | OK | OK | OK |
| | Random Vibration | 5.35 G, | OK | OK | OK | OK |
| | Physical Shock | 30G, 11mSec | OK | OK | OK | OK |
| | Low Level Contact Resistance | 50mΩ Max. | 16.47 | 12.25 | 14.47 | 4.22 |
| | Contact Unmating force | 0.31Kgf Min | 1.34 | 0.88 | 1.15 | 0.56 |
| | Contact Mating force | 3.57Kgf Max. | 1.81 | 1.61 | 1.71 | 0.2 |
| | Appearance | No Damage. | OK | -- | OK | OK |
| B | Low Level Contact Resistance | 50mΩ Max. | 16.22 | 12.20 | 14.53 | 4.02 |
| | Temperature Life | 85℃±5℃ 250 h | OK | OK | OK | OK |
| | Low Level Contact Resistance | 50mΩ Max. | 16.55 | 13.07 | 4.98 | 3.48 |
| | Appearance | No Damage. | OK | -- | OK | OK |
| C | Contact Capacitance | 2pF Max | OK | OK | OK | OK |
| | Insulation Resistance | 100 MΩ Min | OK | OK | OK | OK |
| | Dielectric Withstanding Voltage | 1000V AC | OK | OK | OK | OK |
| | Thermal Shock | –55℃ to +85℃ 5 Cycle | OK | OK | OK | OK |
| | Humidity | 40℃, 90-95%RH 168h. | OK | OK | OK | OK |
| | Appearance | No Damage. | OK | -- | OK | OK |
| D | Contact Current Rating | 250V AC 1 Minute | OK | OK | OK | OK |
| | Solderability | 95% solder coverage. | OK | OK | OK | OK |
| | Appearance | No Damage. | OK | -- | OK | OK |
| E | Resistance to Wave Soldering Heat | 265±5℃ for 10±0.5sec. | OK | OK | OK | OK |
| | Appearance | No Damage. | OK | -- | OK | OK |

Figure 2.