

Reliability Report

Isahaya Electronics Corporation
Quality Assurance Department

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Doc. No. IRC-TR-2E-B

1. Reliability Test Results

| Group | Test Items | Test Conditions | Test Quantity | Failure Quantity | Remarks |
|-------|-------------------------------|--|---------------|------------------|---------|
| 1 | Solderability | Solder Temperature 230°C Immersion Time 5sec Using rosin-type flux | 45 | 0 | |
| 2 | Resistance to solder heat | Solder Temperature 260°C Immersion Time 10sec Immersing whole device | 22 | 0 | |
| 3 | Whisker | 60°C, 90%RH, 4000hr | 20 | 0 | |
| | | -40°C, 85°C, 30 min each, 1500 cycles | | | |
| | | Room Temperature 8760hr | | | |
| 4 | Temperature Cycle | Ta=Tstg(min)~Tstg(max) 30min each cycle 100 cycles | 45 | 0 | |
| 5 | Humidity Resistance | Ta=85°C, 85%RH 1000hr | 45 | 0 | |
| 6 | High Temperature Storage | Ta=Tstg(max) 1000hr | 45 | 0 | |
| 7 | High Temperature Reverse Bias | Ta=Tstg(max) VCES=VCEO(max) 1000hr | 45 | 0 | |
| 8 | Pressure Cooker Test | 121°C, 100%RH, 2 × 10 ⁵ Pa 96hr | 45 | 0 | |
| 9 | Operation life test | Ta=25°C Pc=Pc(max) 1000hr | 45 | 0 | |

2. Failure Criteria

| Group | Failure Criteria | |
|--------------|--|---|
| 1 | Less than 95% of the immersed part is covered with solder. | |
| 3 | 50μ m or more | |
| 2, 4~9 | Measurement items | Failure Criteria |
| | ICBO | Which does not meet the electrical characteristics. |
| | IEBO | |
| | hFE | Which does not meet the electrical characteristics. |
| | VCE(sat) | Whose change rate exceeds ±20%. |
| Visual Check | An apparent change in appearance is observed. | |

Measurement conditions are based on the corresponding specification sheet.

For further information of the contents above, please contact our Business Department.