

## 信頼性試験結果/Reliability Test Result

| Product | LED                  |
|---------|----------------------|
| Package | SMD                  |
| Series  | SMLD12_B * /E * _N1W |

1 試験結果(Test Result)

| 1.試験結果(Test            |               |  |       | _     | _ |
|------------------------|---------------|--|-------|-------|---|
| 試験項目                   | 参考規格          | 試験条件   | n     | Pn    |   |
| Test Items             | Reference STD |  | (pcs) | (pcs) |   |
| 半田耐熱                   | J-STD-020D-01 | 前処理 :30°C/70%RH 168hr                                |       |       |   |
|                        |               | リフローピ−ク温度 :260℃ 10秒 220℃以上60秒                        |       |       |   |
|                        |               | プレヒート :140°C~180°C 60秒                               |       |       |   |
|                        |               | リフロ−回数 :2回   | 22    | 0     |   |
| Solder Heat Resistance |               | Prtreatment : Temperature Humidity Strage            |       |       |   |
| for Reflow Soldering   |               | (30°C/70%RH/168hr)                                   |       |       |   |
|                        |               | Reflow Peak Temp. : 260°C 10sec Over 220°C/60sec     |       |       |   |
|                        |               | Preheat: 140 to 180°C 60sec Repeat for 2 cycles      |       |       | 1 |
| 半田付性                   | JESD22-B102E  | ロシン系フラックスに5±1秒浸漬し、245±5℃の                            |       |       |   |
|                        |               | Pbフリー半田槽で製品裏面を3±0.5秒浸漬                               | 22    | 0     | * |
| Solderbility           |               | Immerse into rosin flux for 5±1sec,and the device    | 22    |       | " |
|                        |               | for 3±0.5sec into Pb-free solder bath at 245±5°C     |       |       | 1 |
| 落下                     | JEITA ED-4701 | 高さ:75cm 楓板上:3回                                       | 22    | 0     |   |
| Free Drop              | A-124         | H=75cm Maple Boad : 3 times                          | 22    | U     | 1 |
| 振動                     | JEITA ED-4701 | 100~2000Hz 98.1m/s <sup>2</sup> X,Y,Zの各方向 2時間        |       |       |   |
| Vibration              | A-121         | 100∼2000Hz 98.1m/s <sup>2</sup>                      | 22    | 0     |   |
|                        |               | 2hours each on each direction of X,Y,Z               |       |       |   |
| 温度サイクル                 | JESD22-A104E  | Ta=Tstg Min.°C(30min.) ~ Tstg Max.°C(30min.)100cycle | 22    | 0     |   |
| Thermal Cycle          |               |  | 22    | U     |   |
| 高温放置                   | JESD22-A103E  | Ta=Tstg Max.+5°C/-0°C 1000hrs                        |       |       | 1 |
| High Temperature       |               |  | 22    | 0     |   |
| Strage                 |               |  |       |       |   |
| 高温高湿放置                 | JEITA ED-4701 | Ta=85±2°C 85±5%RH 240hrs                             |       |       | 1 |
| High Temperature       | B-121         |  | 22    | 0     |   |
| High Humidity Strage   |               |  |       |       |   |
| 低温放置                   | JESD22-A119A  | Ta=Tstg Min.±5°C 1000hrs                             |       |       | 1 |
| Low Temperature        |               |  | 22    | 0     |   |
| Strage                 |               |  |       |       | 1 |
| 動作寿命                   | JESD22-A108D  | Ta=25±5°C IF=20mA 1000hrs                            | 22    | 0     | 1 |
| Load Life              |               |  | 22    |       |   |

2 測定項目及び故障判定其準(Failure Criteria)

| <u>Z.例足項目及び</u> 政障刊足基準(Fallure Oriteria) |               |                                   |  |  |  |
|--|---------------|-----------------------------------|--|--|--|
| 測定項目                                     | 測定条件          | 故障判定基準                            |  |  |  |
| Items                                    | Condition     | Criteria                          |  |  |  |
| 光度                                       | IF=5mA        | 初期値の60%                           |  |  |  |
| Luminous Intensity                       | 11 –3111A     | 60% of the initial value          |  |  |  |
| 順方向電圧                                    | IF=5mA        | 初期値に対する変化率±10%                    |  |  |  |
| Forward Voltage                          | 11 –3111A     | Changing rate of $\pm 10\%$       |  |  |  |
| 逆方向電流                                    | VR=VR Max.    | 規格最大値                             |  |  |  |
| Reverse Current                          | VIV-VIV IMAX. | Maximum of specification          |  |  |  |
| 外観                                       | 目視            | 著しい変化のないこと                        |  |  |  |
| Physical                                 | Visual Check  | No outstanding change in physical |  |  |  |

| *1 | 半田付性         | 電極部の95%以上が半田で覆われていること                                       |
|----|--------------|---|
|    | Solderbility | More than 95% of the electrode must be covered with solder. |

<sup>※</sup>当データは、特定Lotの実力値であり保証値ではありません。 ※This data is actual value from specific lot and is not guaranteed.

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