信頼性試験結果/Reliability Test Result

Product	LED
Package	SMD
Series	SML-M13＊T

1.試験結果(Test Result)

試験項目 Test Items	参考規格 Reference STD	試験条件 Test Condition	n (pcs)	Pn (pcs)	
半田耐熱 Solder Heat Resistance for Reflow Soldering	J-STD-020D-01	前処理 :30℃/70%RH 72hr ﾘﾌﾛｰﾋﾟｰｸ温度 :250℃ 10秒 220℃以上60秒 ﾌﾟﾚﾋｰﾄ :140℃～180℃ 60秒 ﾘﾌﾛｰ回数 :2回 Prtreatment : Temperature Humidity Strage (30℃/70%RH/72hr) Reflow Peak Temp. : 250℃ 10sec Over 220℃/60sec Preheat : 140 to 180℃ 60sec Repeat for 2 cycles	22	0	
半田付性 Solderbility	JESD22-B102E	ﾛｼﾞﾝ系ﾌﾗｯｸｽに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 Immerse into rosin flux for 5±1sec,and the device for 3±0.5sec into Pb-free solder bath at 245±5℃	22	0	*1
落下 Free Drop	JEITA ED-4701 A-124	高さ:75cm 楓板上:3回 H=75cm Maple Boad : 3 times	22	0	
振動 Vibration	JEITA ED-4701 A-121	100～2000Hz 98.1m/s^2 X,Y,Zの各方向 2時間 100～2000Hz 98.1m/s^2 2hours each on each direction of X,Y,Z	22	0	
温度ｻｲｸﾙ Thermal Cycle	JESD22-A104E	Ta=Tstg Min.℃(30min.) ～ Tstg Max.℃(30min.)100cycle	22	0	
高温放置 High Temperature Strage	JESD22-A103E	Ta=Tstg Max.+5℃/-0℃ 1000hrs	22	0	
高温高湿放置 High Temperature High Humidity Strage	JEITA ED-4701 B-121	Ta=85±2℃ 85±5%RH 240hrs	22	0	
低温放置 Low Temperature Strage	JESD22-A119A	Ta=Tstg Min.±5℃ 1000hrs	22	0	
動作寿命 Load Life	JESD22-A108D	Ta=25±5℃ IF=IFMAX 1000hrs	22	0	

2.測定項目及び故障判定基準(Failure Criteria)

測定項目 Items	測定条件 Condition	故障判定基準 Criteria
光度 Luminous Intensity	IF=20mA	初期値の60% 60% of the initial value
順方向電圧 Forward Voltage	IF=20mA	初期値に対する変化率±10% Changing rate of ±10%
逆方向電流 Reverse Current	VR=VR Max.	規格最大値 Maximum of specification
外観 Physical	目視 Visual Check	著しい変化のないこと No outstanding change in physical

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

※当ﾃﾞｰﾀは、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.

Notes

1) The information contained herein is subject to change without notice.

2) Before you use our Products, please contact our sales representative and verify the latest specifications :

3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Poducts beyond the rating specified by ROHM.

4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.

6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.

7) The Products specified in this document are not designed to be radiation tolerant.

8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.

10) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.

11) ROHM has used reasonable care to ensur the accuracy of the information contained in this document. However, ROHM does not warrants that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.

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