

Product	MOSFET	Package	DFN0806-3 (VML0806)
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1. TEST RESULT

TEST DESCRIPTION	TEST CONDITION	STANDARD	n [pcs]	Pn [pcs]
Soldering Heat Resistance	(1) 260±5°C , 10sec. , Reflow Soldering , 2 times	JESD22-A111	22	0
	(2) 260±5°C , 10sec. , Solder-Bath		22	0
	(3) 350±10°C , 3sec. , Hand Soldering		22	0
Solderability	(1) 245±5°C , 3sec. , Reflow Soldering	J-STD-002	22	0
	(2) 245±5°C , 3sec. , Solder-Bath	JESD22-B102	22	0
Temperature Cycle	-55±5°C←→150±5°C , 200cycles	JESD22-A104	22	0
High Temp. High Humidity Reverse Bias	85±2°C , 85±5%RH, Specified Bias , 1000hours	JESD22-A101	22	0
Pressure Cooker Test	121±2°C , 100%RH , 203kPa , 100hours	JESD22-A102	22	0
High Temperature Reverse Bias	Ta=Tstg max. , Specified Bias , 1000hours	JESD22-A108	22	0

2. CRITERIA

ITEM	CONDITION	CRITERIA	
Gate-Source Leakage : I_{GSS}	Per specification	Within two times of the standard value.	
Zero Gate Voltage Drain Current : I_{DSS}	Per specification	Within two times of the standard value.	
Forward Transfer Admittance : $ Y_{fs} $	Per specification	Changing rate of ±20%	
Physical	Visual check	No outstanding change in physical.	
Solderability	Visual check	Reflow Soldering	Immersed surface, other than the end of pin as cut-surface, must be covered by solder.
		Solder-Bath	More than 95% of the electrode must be covered with solder.

3. JUDGEMENT

No failure is observed from each test item.

4. TEST DESCRIPTION

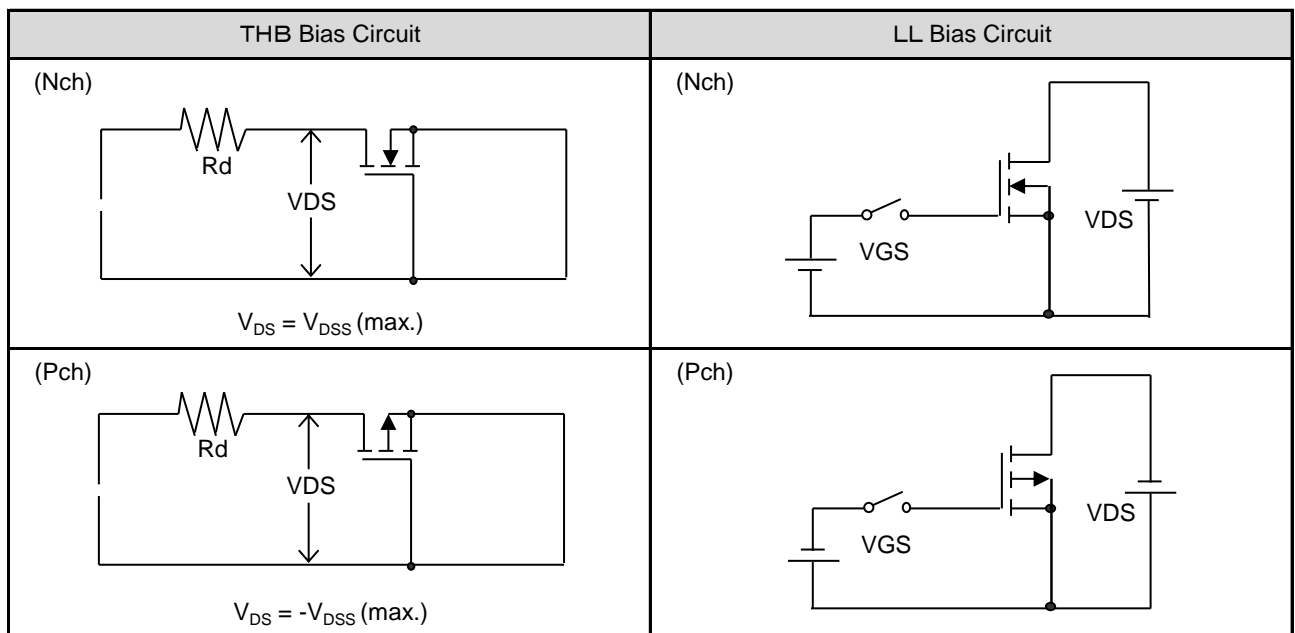
TEST DESCRIPTION		TEST CONDITION	CRITERIA
1. Soldering Heat Resistance *4	(1)	1) Reflow Soldering, 260±5°C(peak) , 10 sec. , 2 times 2) After reflow soldering, leave at room temp. for more than 2h.	• Shall be no mechanical damage. • See (*1) for criteria on electrical characteristics.
	(2) *3	1) Dip the whole body once into solder bath. 260±5°C, 10±1sec Solder : Sn-3Ag-0.5Cu (Lead free) 2) After dipping, leave at room temp. for more than 2h.	• Shall be no mechanical damage. • See (*1) for criteria on electrical characteristics.
	(3)	1) Hand Soldering, 350±10°C , 3sec. 2) After testing, leave at room temp. for more than 2h.	• Shall be no mechanical damage. • See (*1) for criteria on electrical characteristics.
2. Solderability *5	(1)	1) Reflow Soldering, 245±5°C(peak) , 3sec. Solder : Sn-3Ag-0.5Cu (Lead free)	• Immersed surface, other than the end of pin as cut-surface, must be covered by solder.
	(2) *3	While body to be immersed, for 10 sec., then into solder bath of 245±5°C. Thereafter leave for natural dry at room temp. then wash off flux in 2-propanol. Solder : Sn-3Ag-0.5Cu (lead free) Flux : 2-propanol(IPA) (rosin 25wt%)	At least 95% of immersed surface, other than the end of pin as cut-surface, of must be covered by solder, which is observed through 10~20X magnifying glass.
3. Temperature Cycle *6		1) Temp. & Time (Change within 5 sec.) 55°C (air) , 30min ←→ 150°C (air) , 30min 2) Freq. 200cycles. After completion of test, leave at room temp. for more than 2h.	See (*1) for criteria on electrical characteristics.
4. High Temp. High Humidity Reverse Bias *6		1) Ta=85±3°C, RH=75~90%, Time : 1000h 2) See (*2) for the THB bias. 3) After completion of test, leave at room temp. for more than 2h.	See (*1) for criteria on electrical characteristics.
5. Pressure Cooker Test *6		1) Ta=121°C, 100%RH, P=203KPa [2atm] 2) Time : 100h 3) After completion of test, leave at room temp. for more than 2h.	See (*1) for criteria on electrical characteristics.
6. High Temperature Reverse Bias *6		1) Ta=Tstg(max)±2°C, Time : 1000h 2) See (*2) for the THB bias. 3) After completion of test, leave at room temp. for more than 2h.	See (*1) for criteria on electrical characteristics.

5.REMARK

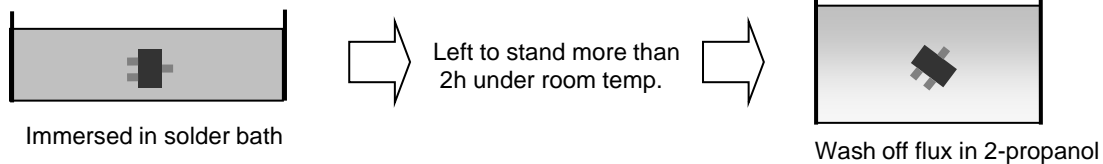
*1 Criteria for electrical characteristics.

MOSFET
<ul style="list-style-type: none"> • $I_{DSS} > \text{Standard} \times 2$ • $I_{GSS} > \text{Standard} \times 2$ • $\frac{\Delta Y_{fs}}{Y_{fs}} > \pm 20\%$

*2 Bias Circuit



*3 Method of test 1, test 2



*4 Preconditioning : The test is carried out after it is left under the high temperature and the high humidity.(85°C,85%,168h)

*5 Preconditioning : Aging is done with the PCT device. (105°C,100%,1.22x10⁵Pa,4h)

*6 Preconditioning : Soldering heat resistance(260°C,10s) is carried out. (Reflow Soldering)

Notes

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