Report No. APR-22-H0293
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RENESAS SEMICONDUCTOR RELIABILITY REPORT

APPLICATION: High Quality

SERIES: NP series(MOSFET)

DEVICE: NP16N06YLL-E1-AY

Quality Assurance Div.
Renesas Electronics Corporation

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Reliability Test Results

The reliability evaluation of this product conforms to AEC-Q101, and the results of representative evaluation items are reported below.

TEST ITEM	Abrv	TEST CONDITION	Test Results		
			Lot	Sample Size	Failure
High Temperature Reverse Bias	HTRB	Tch＝175°C, VDSS=Maximum rating, 1,000h	1	77	0
High Temperature Gate Bias	HTGB	Tch＝175°C, VGSS=+20V, 1,000h	1	77	0
Temperature Cycling	TC	Ta=-55°C～＋150°C, 1,000cycles	1	77	0
Autoclave	AC	Ta=121℃, 100%RH, 100h	1	77	0
High Humidity High Temperature Reverse Bias	H^3TRB	Ta=85°C, 85%RH, VDSS=Maximum rating, 1,000h	1	77	0
Intermittent operating Life	IOL	ΔTc=100°C, 10kcycles	1	77	0
ESD Characterization（HBM)	HBM	C=100pF, R=1.5KΩ, ±1,000V	1	30	0
ESD Characterization（CDM)	CDM	±1000V	1	30	0
Solderability	SD	245°C, 5s.，95% solder coverage minimum	3	30	0
Estimated failure rate		Estimated failure rate：5Fit or less ・Tch= 55°C ・Ea = 0.8eV ・C.L. = 60%			

Reliability test results may include data from family representative products.
MSL Preconditioning was performed prior to TC & AC & H3TRB & IOL.

<Judgement criteria>
Electrical characteristics described in the delivery specification.
(Solderability test is excluded.)

<Preconditioning Details>
125℃, 24h →85℃ 85%RH, 168h(JEDEC MSL1) → Reflow(260℃×10s, 220℃×60～120s, 3time)