



Report No. APR-25-H0173
Date: Apr. 01, 2026

RENESAS SEMICONDUCTOR RELIABILITY REPORT

SERIES: REXFET-1 80V

DEVICE: Refer to Product List

QUALITY GRADE: High Quality

Quality Assurance Div.
Renesas Electronics Corporation

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Q101 Qualification Test Results for Product List

[Note : Basically qualification tests were performed using a representative product with the same wafer process and the same package structure.]

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Test	#	Reference	Test Conditions	Lots	S.S.	Total	Results (Fail of Total)	Comments: (N/A =Not Applicable)
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TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS

PC	A1	JESD22-A113 J-STD-020	SMD only; Moisture Preconditioning for HAST/H3TRB, UHAST/AC, TC, IOL/PTC.	3	308	924	0 of 924	MSL1
HAST	A2	JESD22-A110	Ta=130C, RH=85%, VDSS Maximum rating, 96h	3	77	231	0 of 231	Performed on Package Type : SO8-FL, μ SO8-FL See H3TRB, Package Type : TOLL, TOLT
H3TRB	A2 alt	JESD22-A101	Ta=85C, RH=85%, VDSS Maximum rating, 1000h	3	77	231	0 of 231	Performed on Package Type : TOLL, TOLT See HAST, Package Type : SO8-FL, μ SO8-FL
UHAST	A3	JESD22-A118 or A101	Ta=130C, RH=85%, 96h	3	77	231	0 of 231	-
AC	A3 alt	JESD22-A102	Ta=121C, RH=100%, 96h	-	-	-	-	See UHAST.
TC	A4	JESD22-A104 Appendix 6	Ta=-55C to 150C, 1000cycles	3	77	231	0 of 231	-
TCHT	A4a	JESD22-A104 Appendix 6	TC Hot Test.	-	-	-	-	See TCDT.
TCDT	A4a alt	JESD22-A104 Appendix 6 J-STD-035	TC Delamination Test.	3	77	231	0 of 231	Performed on Package Type : TOLL, TOLT, μ SO8-FL N/A, Package Type : SO8-FL (Not wire, clip bond)
IOL	A5	MIL-STD-750 Method 1037	Δ Te=100C, 15000cycles	3	77	231	0 of 231	-
PTC	A5 alt	JESD22-A105	Power Temperature Cycling.	-	-	-	-	See IOL.

TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS

HTRB	B1	MIL-STD-750-1 M1039	Tj(Tch)= 175C, VDSS Maximum rating, 1000h	3	77	231	0 of 231	-
ACBV	B1a	MIL-STD-750-1 M1040 Test condition A	AC blocking voltage.	-	-	-	-	N/A Thyristors Only.
SSOP	B1b	MIL-STD-750-1 M1038 condition B (Zeners)	Steady State Operational.	-	-	-	-	N/A Voltage Regulators (Zeners) Only.
HTGB	B2	JESD22-A108	Tj(Tch)= 175C, VGSS=+20V, 1000h	3	77	231	0 of 231	-

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Test	#	Reference	Test Conditions	Lots	S.S.	Total	Results (Fail of Total)	Comments: (N/A =Not Applicable)
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TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS

DPA	C1	AEC Q101-004 Section4	Random sample of parts that have successfully completed H3TRB or HAST and TC.	3	4	12	0 of 12	-
PD	C2	JEDEC JESD22-B100	Physical Dimensions.	1	30	30	0 of 30	-
WBP	C3	MIL-STD-750-2 Method 2037	Wire Bond Pull.	1bond	10parts	10bonds	0 of 10bonds	Performed on Package Type : TOLL, TOLT, μ SO8-FL N/A, Package Type : SO8-FL (Not wire, clip bond)
WBS	C4	AEC Q101-003 JESD22-B116	Wire Bond Shear Test.	1bond	10parts	10bonds	0 of 10bonds	Performed on Package Type : TOLL, TOLT, μ SO8-FL N/A, Package Type : SO8-FL (Not wire, clip bond)
DS	C5	MIL-STD-750-2 Method 2017	Die Shear.	1	5	5	0 of 5	Performed on Package Type : TOLL, TOLT N/A, Package Type : SO8-FL, μ SO8-FL (Die shear not possible)
TS	C6	MIL-STD-750-2 Method 2036	Terminal Strength.	-	-	-	-	N/A Through-hole leaded parts only.
RTS	C7	JESD22-B107	Resistance to Solvents.	-	-	-	-	N/A Not required for laser etched parts.
RSH	C8	JESD22-A111 (SMD)	Resistance to Solder Heat.	-	-	-	-	N/A Wave solder deprecated.
TR	C9	JESD24-3, 24-4, 24- 6 as appropriate	Thermal Resistance.	1	10	10	0 of 10	-
SD	C10	JEDEC J-STD-002	Solderability: (>95% coverage)	3	10	30	0 of 30	-
WG	C11	AEC Q005	see AEC-Q005	-	-	-	Pass	Performed on product TEG with test method based on JESD201.
CA	C12	MIL-STD-750-2 Method 2006	Constant Acceleration.	-	-	-	-	N/A Hermetic packaged devices only
VVF	C13	JESD22-B103	Vibration Variable Frequency.	-	-	-	-	N/A Hermetic packaged devices only
MS	C14	JESD22-B104	Mechanical Shock.	-	-	-	-	N/A Hermetic packaged devices only
HER	C15	JEDEC JESD22-A109	Hermeticity.	-	-	-	-	N/A Hermetic packaged devices only

Test	#	Reference	Test Conditions	Lots	S.S.	Total	Results (Fail of Total)	Comments: (N/A =Not Applicable)
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TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

DI	D1	AEC Q101-004 Section3	Dielectric Integrity.	1	5	5	0 of 5	Verified by process TEG
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TEST GROUP E – ELECTRICAL VERIFICATION TESTS

EV	E0	JESD22-B101	External Visual.	All	All	All	0 of All	-
TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test.	All	All	All	0 of All	-
PV	E2	Individual AEC user specification	Parametric Verification.	3	25	75	0 of 75	-
ESDH	E3	AEC Q101-001	Electrostatic Discharge, Human Body Model.	1	30	30	0 of 30	HBM: C:100pF, R:1.5KΩ See product list for withstand voltage.
ESDC	E4	AEC Q101-005	Electrostatic Discharge, Charged Device Model.	1	30	30	0 of 30	CDM: Over 1000V
UIS	E5	AEC Q101-004 Section2	UNCLAMPED INDUCTIVE SWITCHING.	1	5	5	0 of 5	-
SC	E6	AEC Q101-006	Short Circuit Characterization.	-	-	-	-	N/A Smart power parts only.

Table. Product list

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No	Product part number	Package Type	HBM withstand voltage
1	RBA011N08R1SBPW#KB0	TOLT	2000V to \leq 4000V
2	RBA013N08R1SBPW#KB0	TOLT	2000V to \leq 4000V
3	RBA013N08R1SBQ4#GB0	TOLL	2000V to \leq 4000V
4	RBA175N08EANS-4UA02#HB0	SO8-FL(5×6)	2000V to \leq 4000V
5	RBA140N08EANS-4UA03#HB0	SO8-FL(5×6)	2000V to \leq 4000V
6	RBA90N08EANS-4UA06#HB0	SO8-FL(5×6)	1000V to \leq 2000V
7	RBA50N08EANS-5UA09#HB0	μ SO8-FL(3×3)	1000V to \leq 2000V
8	RBA30N08EANS-5UA17#HB0	μ SO8-FL(3×3)	500V to \leq 1000V
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