

Quarterly Reliability Monitoring Results

Quarters: Q1/2022 to Q4/2023

Based on structural similarity

| | User Part Number | | | | | | |
|-----------------------------|---|---|---|--|---|--|--|
| • | PESD15VW1ACSF | | | | | | |
| aboratory | Part Description | | | | | | |
| | NXP ICN8 | Protection INDI | | | | | |
| eliability labs | BD package | | | | | | |
| | Test Conditions | Duration | # Lots | # Quantity | # Rejects | | |
| TEST | | | | | | | |
| | | | | | | | |
| Electrical Test | Tamb = 25 °C | N/A | see below | all parts | see below | | |
| | MIL-STD-750-1 | | | | | | |
| | | | | | | | |
| , | | | | | | | |
| Bias | reverse voltage | 1000 hours | 92 | 4040 | 0 | | |
| | | | | | | | |
| | | | | | _ | | |
| Temperature Cycling | -40 °C to 125°C | 1000 cycles | 157 | 6880 | 0 | | |
| HUACT | JECD22 A110 | | | | | | |
| | | | | | | | |
| Olibiased HAST | | - 96 hours | n.a. | n.a. | n.a. | | |
| | | | | | | | |
| | | | | | | | |
| Autociave | Pressure = 205 kPa (29.7 psia) | | | | | | |
| HACT | JESD22-A110 | | | | | | |
| | | | | | | | |
| | | 1000 hours | 156 | 6940 | 0 | | |
| rest | | 1000 110015 | 130 | 0040 | U | | |
| TOL | | | | | | | |
| | | 1000 haves | | | | | |
| Intermittent Operating Life | 100 C 101 15000 Cycles | 1000 nours | II.d. | II.d. | n.a. | | |
| RSH | IFSD22-Δ111 | | | | | | |
| | | 10 c | n a | n a | n.a. | | |
| | | 10 3 | n.u. | ma. | ii.u. | | |
| | 1-STD-002 | | 8 | 240 | 0 | | |
| | Eliability labs TEST Pre- and Post-Stress Electrical Test HTRB High Temperature Reverse Bias TC Temperature Cycling UHAST Unbiased HAST AC Autoclave HAST Highly Accelerated Stress Test IOL | PESD15VW1ACSF Pat Description NXP ICN8 BD package Test Conditions TEST Pre- and Post-Stress Electrical Test HTRB High Temperature Reverse Bias TC Temperature Cycling TC Temperature Cycling Tamb = 130 °C, RH = 85 % HAST Highly Accelerated Stress Test DESD22-A110 AC Autoclave Tamb = 130 °C, RH = 85%, VR = 80 % of rated reverse voltage MIL-STD-750 Method 1037 ton = toff, devices powered to insure ΔTj = 100 °C for 15000 cycles RSH Resistance to Solder Heat Pest Description NXP IDSScription NXP ICN8 BD package Test Conditions Tamb = 25 °C MIL-STD-750-1 MIL-STD-750-1 MIL-STD-750 Method 1037 ton = toff, devices powered to insure ΔTj = 100 °C for 15000 cycles | PESD15VW1ACSF Part Description NXP ICN8 Protection INIT | PESD15VW1ACSF Part Description NXP ICN8 BD package Test Conditions Duration # Lots | PESD15WN1ACSF Part Description NXP ICN8 Protection INDI | | |

^[1] The maximum applied voltage is limited by test chamber set up and does not exceed 115V.

Calculation of FIT and MTTF

Test considered for FIT calculation: High Temperature Reverse Bias (HTRB, Test # 5) Confidence level 60%, derated to 55 °C, activation energy 0.7 eV, test time 168 to 1000 hours

| Wafer Fab | Technology | Quantity | Rejects | Failure Rate (FIT) | MTTF (hrs) |
|-----------|-----------------|----------|---------|--------------------|------------|
| NXP ICN8 | Protection INDI | 4040 | 0 | 1,1 | 9,51E+08 |

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