Product reliability

Quality and reliability are built into the culture at Texas Instruments with the goal of providing high-quality products to customers. TI periodically monitors the reliability of its products, wafer fab processes, and package technologies, through its Ongoing Reliability Monitor (ORM) program. The ORM program involves collecting environmental reliability stress data on representative sets of devices, processes and packages. The results from the ORM program are updated quarterly in this report.

TI builds simulations, accelerated testing, and robustness evaluations into the product development process. During this process, TI carefully assesses silicon process and package reliability, and silicon/package interaction. TI also evaluates manufacturability of the device to verify a robust silicon and assembly flow to enable continuity of supply to customers.

Non-automotive devices are qualified with Joint Electron Devices Engineering Council (JEDEC) industry standard test methodologies. TI qualifies new devices, significant changes and product families based on JEDEC JESD47. The data shown is representative of the material sets, processes and manufacturing sites used by the device family.

Report for TI part number :	**LMZM23601SILR**
Report Date:	**12/20/2018**

FAB process reliability data.

Fab Process	Reliability Test	Rolling Year (4Q17 - 3Q18) Sample Size	Cumulative Sample Size	Disposition
Power BICMOS	High Temperature Operating Life, 125 C, 1000 Hours (or E quivalent)	27894	217938	PASS

Assembly process reliability data.

Package Family	Reliability Test	Rolling Year (4Q17 - 3Q18) Sample Size	Cumulative Sample Size	Disposition
uSiP	Autoclave, 121C, 96 Hours	77	77	PASS
uSiP	Biased HAST, 110C/85%RH, 264 Hours	1155	2002	PASS
uSiP	Biased HAST, 130C/85%RH, 96 Hours	0	315	PASS
uSiP	High Temperature Storage Life, 150C, 1000 Hours	455	1551	PASS
uSiP	Temperature Cycle, -40/125C, 850 Cycles	770	1702	PASS
uSiP	Temperature Cycle, -55/125C, 700 Cycles	462	2609	PASS
uSiP	Temperature-Humidity Bias Test (85C/85%RH), 1000 Hours	0	548	PASS
uSiP	Unbiased HAST, 110C/85%RH, 264 Hours	1078	2002	PASS
uSiP	Unbiased HAST, 130C/85%RH, 96 Hours	0	2028	PASS