



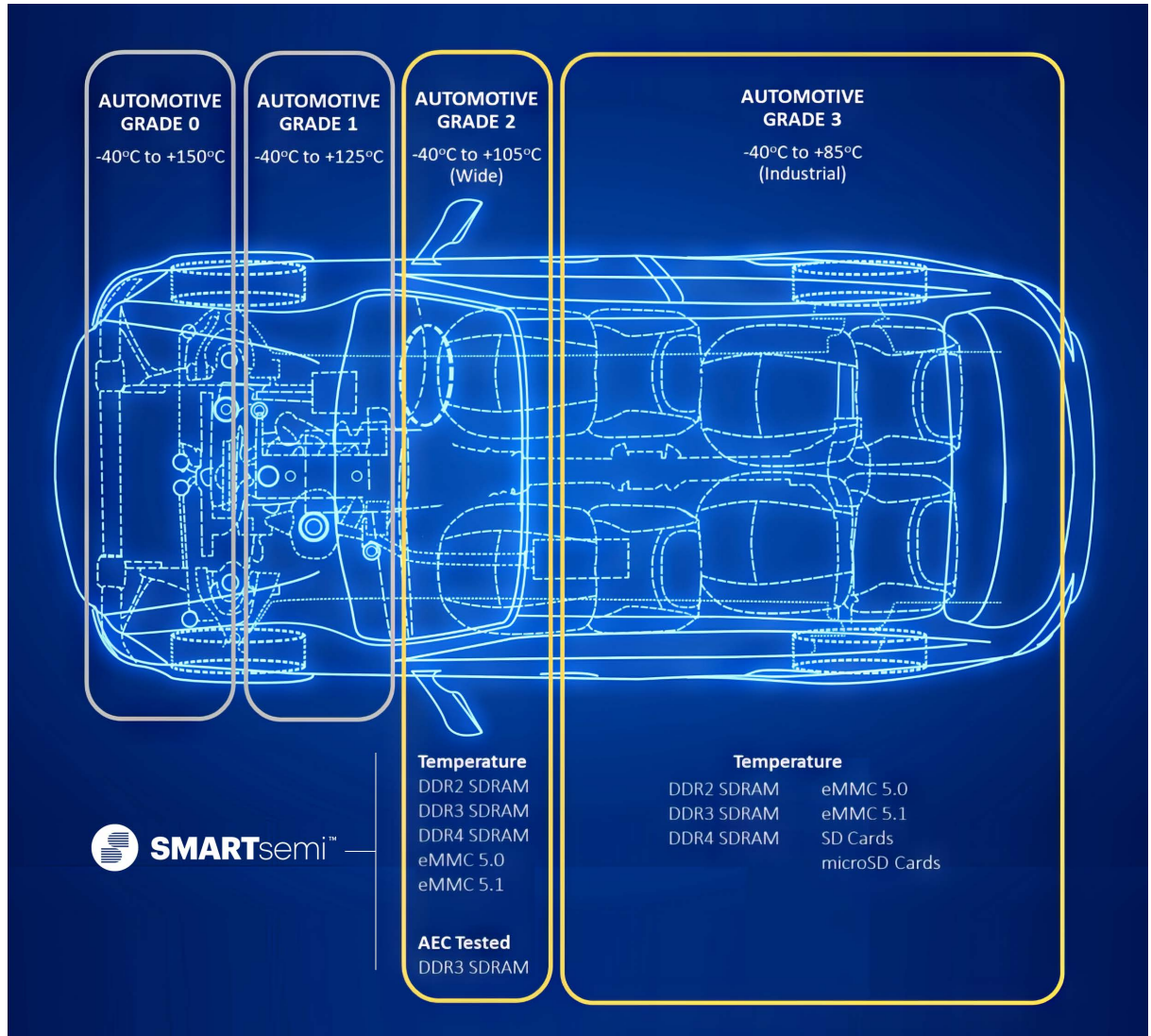
Automotive Applications



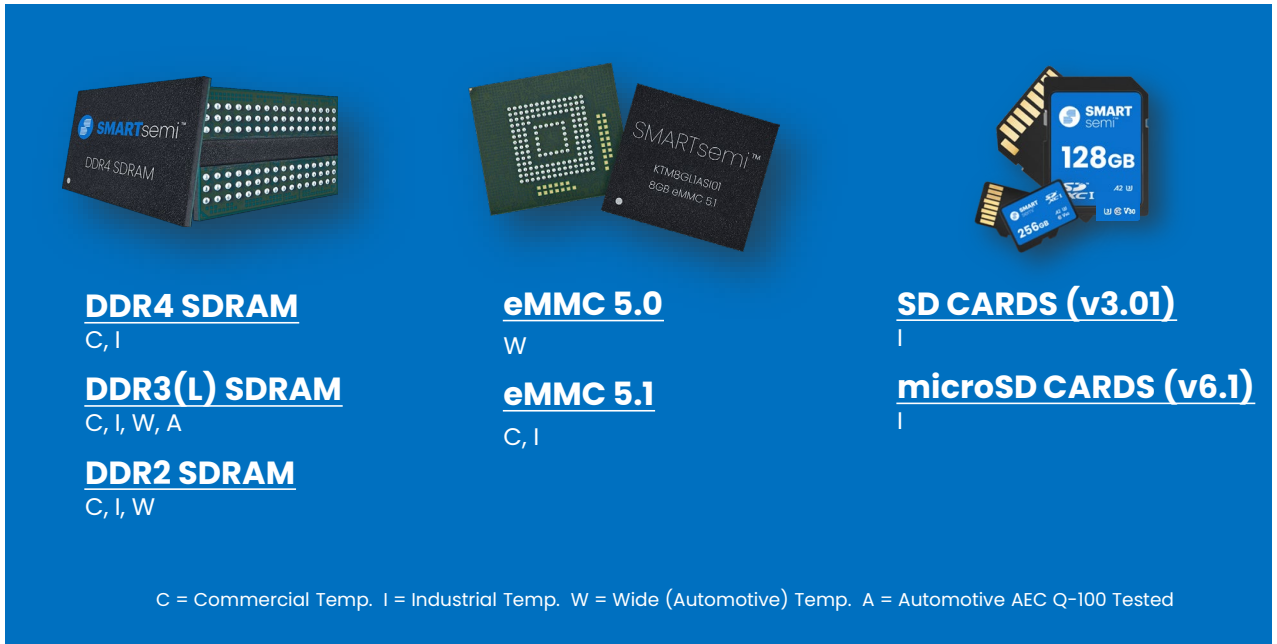
Vehicles from cars to SUVs, motorcycles to trucks, internal combustion engines to battery electric all have two things in common. We depend on them to safely and reliably move people and cargo and with each generation, they are becoming more complex and loaded with electronics.

The memory components used in automotive applications are required to meet stringent standards and pass tests for stability, reliability, and longevity.

Modern automotive electronics are tested and classified in a variety of ways. A common specification, AEC-Q100, grades components by operating temperature range. The grading of the components depends on the temperature of the environment where they are embedded.



SMARTsemi memory components operate at temperature ranges including wide (automotive) temperature (-40°C to +105°C), industrial temperature (-40°C to +85°C), and commercial (0°C to 85 or 95°C).



DDR4 SDRAM
C, I

DDR3(L) SDRAM
C, I, W, A

DDR2 SDRAM
C, I, W

eMMC 5.0
W

eMMC 5.1
C, I

SD CARDS (v3.01)
I

microSD CARDS (v6.1)
I

C = Commercial Temp. I = Industrial Temp. W = Wide (Automotive) Temp. A = Automotive AEC Q-100 Tested

Non-critical electronics in the cabin such as controls for windows, locks, and entertainment systems may commonly use industrial temperature grade devices, including any of SMART's DRAM, FLASH, and FLASH Card components. SMART's DDR2, DDR3(L), and eMMC 5.0 components also operate at wide (automotive) temperature grade ranges. In addition to temperature testing, our DDR3(L) devices are also tested and certified AEC Q-100 Class 2 for dashboard electronics including information, navigation, environmental, and other control systems.

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