

FRAM has the memory for controllers

Increased complexity of automotive electrical systems and greater numbers of electronic control units throughout vehicles create a demand for increased memory in the controllers.

Ramtron International has achieved AEC-Q100 status for its latest non-volatile serial ferroelectric random access memory (FRAM) device and believes it offers several significant advantages over traditional devices. It claims the FM24CL16 is ideal for applications such as adaptive cruise control (ACC) and is already in series production in this application.

Ramtron has identified a need for improved non-volatile data storage for automotive applications including smart airbags, occupant sensors, automatic transmissions, infotainment systems and ACC.



FRAM: Memorable stuff

It says that FRAM already plays an integral role in these systems and is superior to EEPROM and Flash because it accepts faster writes, and has high endurance and low power consumption.

Fast writes are suitable for data input from sensors, especially those embedded in devices subject to high levels of electrical noise or sudden power loss. High endurance enables repeated data capture without the risk of

the memory wearing out.

Ramtron vice president Mike Alwais said: “FRAM’s ‘NoDelay’ writes set it apart as the only non-volatile memory technology suitable for advanced automotive electronic systems such as adaptive cruise control. The FM24CL16 has been designed into such systems and is now qualified for automotive applications as a reliable, high quality component.”

FM24CL16 is a 16Kbit RAM with a standard two-wire interface. Pin-compatible with comparable EEPROM devices, it reads and writes at bus speeds up to 1MHz with almost limitless endurance and four years of data retention. It operates on a 2.7-3.6V supply, consumes 75 μ A for reads and writes at 100kHz, and has a temperature range of -40 to +85°C.