eMemory
Embedded Wisely, Embedded Widely

NeoMTP® – Cost–Effective MTP solution

Overview

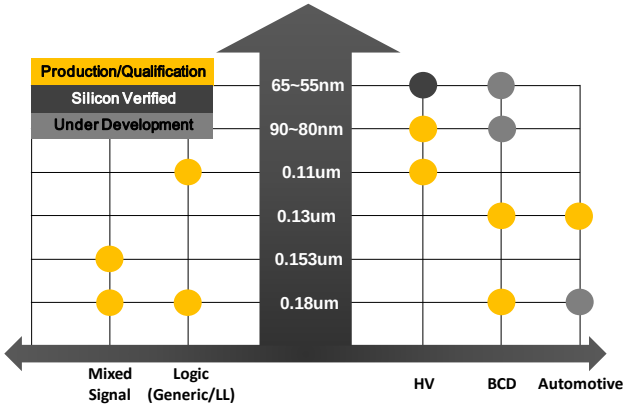
eMemory's NeoMTP is a multiple-time programmable memory solution using floating gate technology. The IP does not require additional mask layers or thermal budget for 3.3V IO or 5V IO devices. It can offer up to 1K endurance cycles at the industry's lowest implementation costs.

Feature

- ❖ Program: Channel Hot Electron
- ❖ Erase: Fowler–Nordheim tunneling
- ❖ Compact macro area
- ❖ Good reliability
- ❖ Density up to 512K

Availability

NeoMTP IP has been qualified at logic, HV and BCD process nodes. This technology is qualified for automotive Garde1 on the designated 130nm BCD platform and supports 1,000 write cycles with an automotive Grade0 temperature range of -40°C ~ 150°C on 180nm BCD process. It is being developed for more logic compatible platforms.

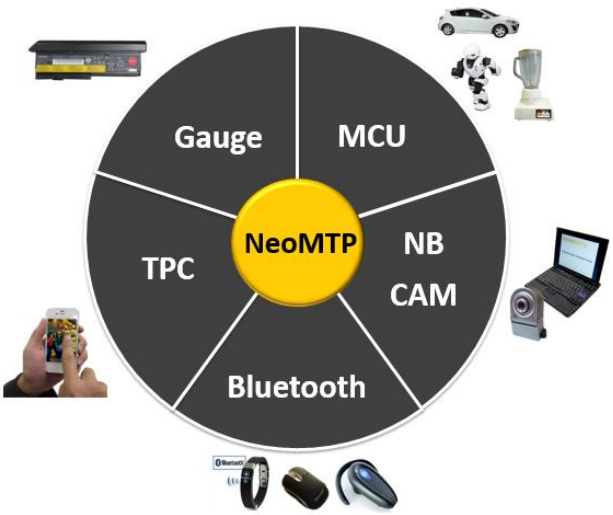


Process	0.13um BCD AEC-Q100 grade 1	0.13um BCD 1.5V/5V	0.11um HV MR 1.5V/5V/32V	0.11um G 1.2V/3.3V
Operating Voltage	Vdd: 1.5V±10% Vdd2: 2.5V~5.5V	Vdd: 1.5V±10% Vdd2: 2.5V~5.5V	Vdd: 1.5V±10% Vdd2: 2.3V~5.5V	Vdd: 1.2V±10% Vdd2: 2.6V~3.6V
Memory Configuration	8Kx32*	8Kx38	32Kx8	10Kx16
Access Time	53ns	38ns	200ns	38ns
Program Scheme	4 bits	4 bits	Byte	Byte
Erase Scheme	Sector/Chip	Sector/Chip	Sector	Sector
Endurance	1K	1K	100	100
Retention	125°C10year	125°C10year	85°C10year	85°C 10year

Note: w/ ECC

Application

NeoMTP is developed for a broad range of applications, including touch panel controller (TPC), LCD driver, type-C of power management, MCU etc. The IP allows for frequent changes of system settings, and is an ideal replacement of external SPI flash and EEPROM.



Advantage

NeoMTP is a highly reliable technology. Its data retention is over 10 years at 85°C operation for 3.3V gate oxide device, and retention is over 10 years at 125°C operation for 5V gate oxide devices.

