eMemory
Embedded Wisely, Embedded Widely

NeoEE®– Low Power and High Endurance MTP Solution

Overview

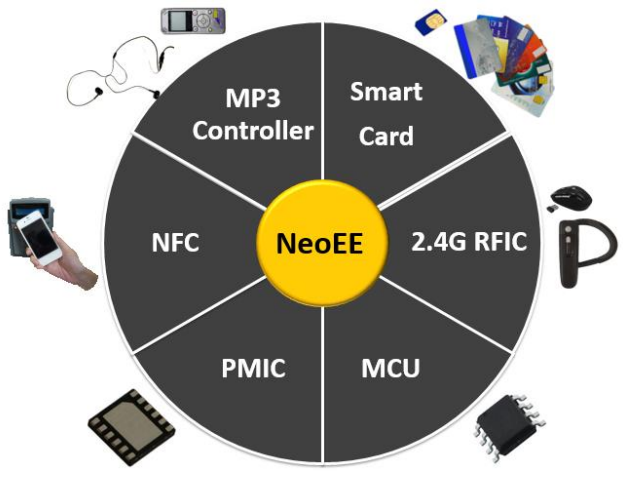
eMemory's NeoEE is an EEPROM solution using floating gate technology, with endurance up to 500K cycles. The IP is tailored for applications requiring high endurance and low power. Both program and erase are achieved by reliable Fowler–Nordheim tunneling mechanism.

Feature

- ❖ Low voltage / wide voltage range operation
- ❖ Low power program/erase
- ❖ High manufacturing stability
- ❖ High endurance up to 500k cycles
- ❖ High temperature operation up to 150° C

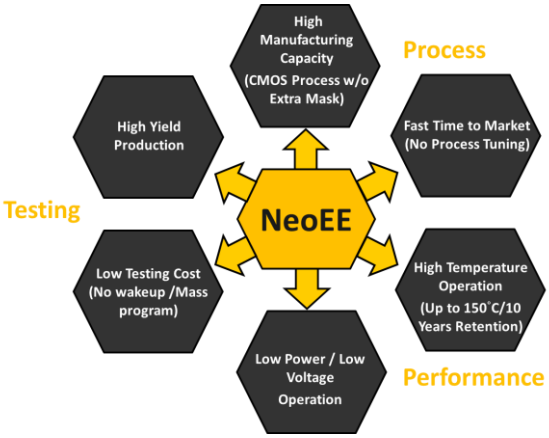
Application

With its outstanding features, NeoEE is able to meet consumer, industrial and automotive industry standards. The IP has a wide range of usage, including user settings in IC Card, code storage in MCU and RFIC, configuration settings in NFC controller, as well as parameter trimming in fingerprint sensor, wireless IC, OIS, p-gamma and power management IC. NeoEE technology allows for frequent changes of system settings, and is an ideal replacement of external SPI flash and EEPROM.



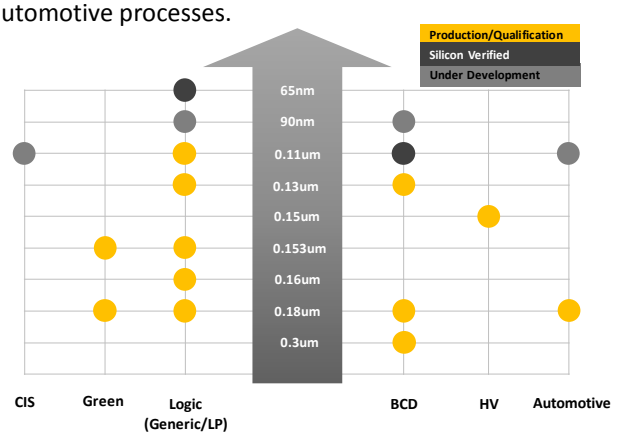
Advantage

NeoEE requires no process or device tuning, helping users to reduce time-to-market. Other benefits include low power consumption, high endurance cycles, high reliability, and low manufacturing/testing costs.



Availability

NeoEE is available for a range of process technologies at 12 foundries. The IP is suitable for logic, BCD, HV and automotive processes.



Memory Cell	3.3V			5V			
SPEC Type	EEPROM Replacement	Standard	Single Power Byte-Write emulator	Automotive AEC-Q100 grade 0		High Temperature or High Endurance	High Endurance
Process	0.18um~0.11um Logic / LP	0.18um~0.11um Logic / LP	0.18um~0.13um Logic / green	0.18um BCD	0.11um BCD	0.18um/0.13um BCD	0.18um Logic/MM
Operating Voltage	Dual Power (VDD, VDD2)		1.6V ~ 3.6V or 1.5V ~ 2.0V	1.6V~2V	1.8V ~ 5.5V(read) 2.5V ~ 5.5V(PGM)		1.62V~1.98V
Memory Config.	< 64 x 16	< 1k x 8	< 2k x 8	128 x 8	512x16	< 1k x 8	1K8
Program Scheme	Byte Write/	page(128 bits)		Word Write		page(128 bits)	
Erase Scheme	16 bits Write	page or chip				page or chip	
Endurance	10K~100K	10K		1K	10k	1K ~ 500K	100K
Retention (10year)	85˚C			150˚C		125˚C/150˚C	125˚C
Program/Erase Tj	-40˚C ~ 85˚C			-40˚C ~ 150˚C		-40˚C~125˚C/150˚C	-40˚C~125˚C
Read Tj	-40˚C ~ 125˚C			-40˚C ~ 150˚C			

Note: Welcome to visit http://iservice.ememory.com.tw to have more information