

Higher Performance Embedded OTP for Consumer Electronics Realized With BriteXPM

1. Product Overview

1.1 General Description

BriteXPM is a family of higher performance embedded non-volatile memories; as much as 40% improvement in random access time is achieved from the XPM product line. Historically, Kilopass' traditional XPM products are qualified with an accelerated voltage and temperature equivalent to more than 10 years of operating life under harsh environment. With additional guard banding, the certified XPM has a relatively slow performance of random access time, but can often out-live the silicon it is embedded in. While reassuring in military, industrial, or automotive applications, Kilopass has decided that another optimization is appropriate for consumer, computing, and mobile applications where performance is more important, thus the BriteXPM product family.

After eight years of silicon verification, Kilopass has gained enough field data to correlate actual performance to statistical & foundry models. With a setting modification to the database, as well as countless verification to optimize the guard band, Kilopass can deliver the same quality and reliability to consumer electronics customers with the BriteXPM product family.

BriteXPM is available in from 0.13um to 45nm at foundries including TSMC, Chartered, Dongbu, and SMIC. Many configuration are available now, more to roll out in Q3'09. Its configuration options include density, read voltage, program/read bus width, and charge pump.

Features:

- One-time programmable asynchronous memory
- Support processes from 130nm down to 45nm
- Configurable options
 - 1Kb to 1Mb XPM memory
 - Integrated charge pump or external VPP programming voltage
 - Lock bit function
 - Data bus interface
 - Program: x1 or x8 bits
 - Read: x1 or x8 or x16 or x32
 - Read operating voltages
 - VDD (core supply)
 - VDDIO (most common I/O supply, 3.3V or 2.5V)
- Multi-foundry availability - TSMC, Chartered, SMIC, and Dongbu
- Proven in customer high volume production
- Data Retention: 5 years

Applications

- Secured code storage hardware solutions
- Replacement of EEPROM/Flash for boot code/firmware storage for MCUs/Embedded Processors/DSP
- ROM patch or ROM replacement in SOCs and ASICs

1.2 Module Matrix

Foundry	Node	Density	New tACC(ns)
TSMC	130G	1Kb-1Mb	100
	90LP	1Kb-128Kb	50
	90G	1Kb-128Kb	50
	80GC	1Kb-128Kb	Q3'09
	65GP	8Kb-128Kb	Q3'09
	65LP	8Kb-128Kb	50
	45LP	8Kb-128Kb	40
SMIC	130G	1Kb-1Mb	100
Dongbu	130G	1Kb-64Kb	100
Chartered	130G	1Kb-1Mb	100

**For more information about Kilopass products,
e-mail us at klptinfo@kilopass.com
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