

# NAND Flash...Still Flying High in 2022 and Beyond.

NAND Flash Ad (2002)



When you'll see NOR flash in high-density, high-performance memory applications.

	SLC NAND	MLC NAND	SLC NOR	MLC NOR
READ	27MB/s 25µs/50ns/105µs for 2K bytes	20.5MB/s 50µs/20ns/105µs for 2K bytes	55.2MB/s 80ns/30ns/7 for 16 bytes	50 MB/s 80ns/25ns/3 for 8 bytes
PROGRAM	8.3MB/s 50ms/105µs/200µs for 2K bytes	1.7MB/s 50ms/105µs/1.2ms for 2K bytes	0.15MB/s 102µs for 16 bytes	0.145MB/s 440µs for 64 bytes
ERASE	1.5ms 128 Kbytes	2ms 128 Kbytes	2s 64 Kbytes	1.2s 128 Kbytes
MAXIMUM DENSITY	2Gb	4Gb	128Mb	256Mb

Based on current manufacturer's specifications.

There are plenty of misconceptions flying around about NAND vs. NOR Flash memory technology. The reality is that NAND Flash memory from Toshiba is an ideal solution for high-density, high-performance applications such as mobile handsets and PDAs as well as digital still and digital video cameras. In fact, Toshiba's NAND Flash is available in densities up to 16 times greater than NOR—the highest in the industry. > With significantly faster programming and erase times. Actually, the time to erase and reprogram the same amount of data is up to 25 times faster when using Toshiba MLC NAND compared to MLC NOR! That's a difference users will notice. Plus there are definite advantages in Toshiba's NAND Flash power consumption. NAND Flash uses up to 72% less current than NOR. > Think of all the real possibilities high-density, high-performance NAND Flash from Toshiba can enable. The company that invented flash memory

**NANDFlash**

NAND Flash Today (2022)



**KIOXIA**

INVENTOR OF FLASH MEMORY

**35**

YEARS OF INNOVATION

**35 Years Ago, They said NAND Flash Would Never Take Off...**

Flash-forward to today, and the disruptive technology KIOXIA invented has completely changed how we live, work and play. From its earliest uses in the 1990's to today's innovations, the influence of flash memory is felt far and wide.

What will NAND flash enable us to do next? Will the vision of smart cities become a reality? Will truly autonomous cars take us from place to place? When it comes to flash memory's potential - the sky is the limit.

**NAND Flash... Still Flying High in 2022 - and Beyond.**

#35YearsOfFlash [www.kioxia.com/flash35](http://www.kioxia.com/flash35)