



# VERSATILITY

## Easy, Scalable, Efficient NOR Flash

### Micron® NOR Flash

Today's applications demand an unprecedented combination of features, including high-density fast data throughputs, secure data storage, architectural flexibility and long-term product support. Strike a balance between design requirements and cost by equipping your demanding platforms with our reliable, high-performance NOR flash.

Built on advanced process technology, our NOR flash is constructed with the needs of consumer, communications, automotive and computing applications as well as the next-generation of Internet of Things (IoT) applications. Our industry standard packaging, pinouts, command sets, and chipset support and compatibility make our NOR flash easy to design-in, saving valuable development time while ensuring compatibility with existing and future designs.

### Key Features and Benefits

- **Density:** Industry standard 128Mb–2Gb
- **Security:** Replay protected monotonic counters (RPCMC), block/sector locking, OTP protection register, hardware/software protection, modifiable security device state, protection after power-up, write protection
- **Voltage:** Low-voltage (1.7–2.0V) solutions as well as full-voltage (2.7–3.6V) support
- **Software:** RTOS, Red Hat® Enterprise Linux®, Microsoft Windows® CE drivers
- **Performance:** Operation up to 200 MHz DDR, 400 MB/s read throughput, 2 MB/s program throughput; best-in-class frequency in full voltage and extended temperature ranges
- **Interface:** Single SPI, dual I/O, quad I/O, twin-quad I/O, octal I/O and standard parallel interfaces along with double transfer rate (DTR) mode to enable a high degree of flexibility, performance and backward compatibility
- **Package Options:** Industry standard, Pb-free and HF-free package options, such as TSOP, LBGA, SOIC, TBGA and DFN, in addition to ultra-small wafer-level chip-scale package (WLCSP) and known good die (KGD) options
- **Temperature Range:** Full industrial (–40°C to 85°C) and automotive AEC-Q100 grade 2 (–40°C to 105°C) and grade 3 (–40°C to 85°C) temperature support to address a variety of applications

### Why Buy Micron NOR Flash?

#### 1. Innovative Portfolio

Rely on one of the industry's most advanced NOR flash portfolios, with devices offered in a broad range of densities and packages.

#### 2. Competitive Solutions

Get instant power-on with best-in-class 400 MB/s read throughput; improve firmware updates with extremely fast 2 MB/s program throughput; and increase application security\* with advanced block protection and replay protected monotonic counters (RPCMC).

#### 3. Expert Support

Our NOR products are backed by 30 years of industry leading technical expertise and innovation in semiconductor design and manufacturing. You'll get the stability, flexibility, support and availability you need in a long-term memory solution with a long-term memory provider.



## Full-Spectrum Solutions

Compatibility-tested to work with key processors, our NOR flash products offer a range of densities to provide advanced memory solutions for a diverse array of designs. Empower your data-intensive applications with proven reliability and fast memory execution, while staying on target with design costs.

With one of the most advanced NOR flash portfolios in the industry, Micron delivers a broad range of cost-effective devices that add value to both high- and low-end applications. Our product family can help simplify the design process with industry-standard interfaces and packaging, as well as extended voltage and temperature ranges.

## NOR Flash Applications

Micron's NOR flash meets the requirements of many segments:

- **Consumer:** Our NOR solutions are purpose-built to meet the design requirements of consumer and mobile products such as wearables, cameras, set-top boxes and GPS/navigation.

- **Embedded:** Our NOR flash solutions help designers reduce board space, lower power consumption, and reduce overall costs in the embedded systems that serve medical, enterprise and client networks, military, industrial automation, and avionics.

- **Automotive:** Using advanced NOR flash process technology, robust design methodologies and severe dedicated testing flow, our highly reliable NOR solutions are AEC-Q100 qualified. They support extended automotive temperature ranges for use in a variety of environmental conditions, and they provide higher-capacity storage for cluster and dashboard applications, in-car infotainment systems, power train controls, and Advanced Driver Assistance Systems.

## Contact Us

Visit [micron.com](http://micron.com) for more details on NOR flash solutions. Contact your Micron sales representative with questions or for samples and support.

## NOR Flash Product Family

Product Family	Voltage Range	Bus Width	Density Range <sup>1</sup>	Speed	Package <sup>1</sup>
Xccela Flash (MT35X)	1.7–2.0V, 2.7–3.6V	x1, x8	256Mb–2Gb	200 MHz DDR (400 MB/s)	SOIC, BGA
MT25T	1.7–2.0V, 2.7–3.6V	x1, x2, x4, x8	256Mb–1Gb	166 MHz (166 MB/s)	SOIC, BGA
MT25Q	1.7–2.0V, 2.7–3.6V	x1, x2, x4	128Mb–2Gb	166 MHz (83 MB/s)	SOIC, DFN, BGA, KGD, CSP
MT28EW	1.65–3.6V	x8, x16	128Mb–1Gb	95ns, 20ns page	TSOP, BGA
MT28FW	1.65–3.6V	x16	512Mb–2Gb <sup>2</sup>	105ns, 20ns page	TSOP, BGA

1. Not all densities available in all package and voltage combinations.

2. Stacked solution.

[micron.com](http://micron.com)

\*No hardware, software or system can provide absolute security under all conditions. Micron assumes no liability for lost, stolen or corrupted data arising from the use of any Micron products, including those products that incorporate any of the mentioned security features.

Products are warranted only to meet Micron's production data sheet specifications. Products, programs and specifications are subject to change without notice. Dates are estimates only.

©2017 Micron Technology, Inc. All rights reserved. All information is provided on an "AS IS" basis without warranties of any kind. Micron, the Micron logo, Xccela and all other Micron trademarks are trademarks of Micron Technology, Inc. Red Hat Enterprise Linux is a registered trademark of Red Hat, Inc. in the United States and other countries. Microsoft and Windows are registered trademarks of Microsoft, Inc. All other trademarks are the property of their respective owners. Rev. B 6/17 CCMMRD-676576390-10651

