MACRONIX

IoT Solutions

IoT (Internet of Things) is a technological revolution that will change human history through innovation. It is projected that by 2025 there will have been nearly 31 billion IoT devices produced. The reason for this massive growth is due to never before seen advancements that these solutions support. With IoT, solutions across industries: in automotive, medical, industrial, etc. now possess the ability to create an ecosystem. The notion of autonomous driving, wearable devices that can autonomously track a patient's health and deliver medicine, and safer manufacturing facilities are all potentially in our future thanks to IoT.

As IoT becomes more sophisticated, system engineers are faced with challenges like key requirements for lower power consumption and smaller form factor. As well, there is an increasing concern with potential security vulnerability that comes with a data sharing ecosystem model.

With over three decades of nonvolatile memory experience, Macronix is well aligned with the IoT market and is aware of these challenges. Therefore, Macronix has developed a series of flash memory solutions that addresses these barriers and strives to support the progress of networking protocols like RoLa, SigFox, BT/BLE, NB-IoT and CAT-Mx, etc. We endeavor to demonstrate our vision of providing advanced product solutions to exceed our customer's evolving flash memory requirements.

MACRONIX
INTERNATIONAL CO., LTD.

www.macronix.com

Macronix Flash Solutions for IoT Applications

Product	Vcc.	Density	Features	Bus Width	Form Factor
Serial NOR Flash					
MX25/66U	1.8V	512Kb-2Gb	Multi I/O	x1, x2, x4	SOP, SON, BGA, WLCSP, KGD(*)
MX25/66UM	1.8V	128Mb-2Gb	Octa Peripheral Interface (OPI)	x1, x8	SOP, BGA
MX25/66UW	1.8V	64Mb-2Gb	Octa I/O, DTR, RWW	x1, x8	SOP, BGA, TFBGA, KGD(*)
MX25R	1.65V-3.6V	2Mb-64Mb	Multi I/O Ultra Low Power	x1, x2, x4	SOP, SON, WLCSP, KGD(*)
MX25S	1.14V-1.6V	8Mb-64Mb	Multi I/O, Ultra Low Vcc	x1,x2, x4	SOP, SON, WLCSP, KGD(*)
MCP NOR Flash					
MX69GL	3V	64-128Mb Parallel NOR + 32Mb pSRAM	De-Mux	x16 Parallel NOR + x16 pSRAM	56-TFBGA
MX69N	1.8V	64Mb Parallel NOR + 32Mb pSRAM	AD-Mux 104MHz Burst	x16 Parallel NOR + x16 pSRAM	52-TFBGA, 56-TFBGA
MCP NAND Flash					
MX63U	1.8V	1 - 4Gb SLC NAND + 512Mb - 2Gb LPDDR2	4/8-bit ECC	x8, x16 SLC NAND + x16, x32 LPDDR2	162-TFBGA

Note: * Please check individual product datasheet for the ECC Requirement
*RWW : Read-While-Write function
*Contact Macronix for SLC NAND information
*KGD : Known Good Die

Wide Range Vcc Flash: MX25R Series

- ✓ Ultra-Low power consumption
- ✓ Ultra-Low Deep Power Down Current : 7nA
- ✓ Ultra-Low Active Current : 3.5mA
- ✓ Wide range Vcc : 1.65-3.6V
- ✓ Volatile bit to switch between Ultra Low Power Mode and High Performance Mode

1.2V Serial NOR Flash: MX25S Series

- ✓ Ultra-Low Deep Power Down Current : 50nA
- ✓ Ultra-Low Active Current : 0.8mA
- ✓ Support 1.14V—1.6V
- ✓ Support 120MHz Read Frequency
- ✓ Volatile bit to switch between Ultra Low Power Mode and High Performance Mode