Microchip’s 32-bit PIC32MZ DA MCU is the industry’s first MCU to combine a 2D Graphics Processing Unit (GPU) and integrated DDR2 memory, making it able to deliver groundbreaking graphics with increased color resolution and display sizes.

The three-layer graphics controller in the PIC32MZ DA family drives 24-bit color Super Extended Graphics Array (SXGA) displays up to 12 inches and expansive storage is provided by up to 32 MB of on-chip DRAM or 128 MB externally addressable DRAM.

The PIC32MZ DA MCUs bridge the graphics performance gap to create complex graphics using simple MCU development tools.

**Features and Benefits**

**Closing the Gap on MPU Graphics**
- Three-layer graphics controller drives 24-bit color SXGA displays
- Industry’s only full 2D graphics processing unit
- Supports larger displays up to 12"

**Expansive Memory Options for Graphics Buffers or Storage**
- First MCU with DDR2 memory
- 32 MB integrated DDR2 DRAM or 128 MB externally addressable DRAM
- 2x faster throughput than industry-standard SDRAM
- Up to 2 MB Flash and 640 KB SRAM

**Ground-Breaking Graphics Using MCU Development Tools**
- Visual graphics design environment
- Custom display driver creation
- Graphics libraries
- Asset converter optimises custom graphics for display size

**Applications**
- Cooking systems
- Door controls
- Commercial soda and ice machines
- Medical controls and monitoring
- Fire protection controllers
- Bar-code label printers
- White goods
- Vending machines
- Home automation
Development Tools
Familiar MCU development tools and resources simplify the development of embedded graphics for Human Machine Interfaces (HMIs). Development of the PIC32MZ DA MCUs is supported by the MPLAB® X Integrated Development Environment (IDE) and MPLAB Harmony Integrated Software Framework in addition to dedicated boards.

• PIC32MZ DA Starter Kits:
  • Stacked DRAM: DM320010
  • External DRAM: DM320008

• PIC32MZ DA Starter Kits with Crypto:
  • Stacked DRAM: DM320010-C
  • External DRAM: DM320008-C

PIC32MZ DA Block Diagram