

## Description

The μPD72123 advanced graphics display controller II (AGDC II) is an enhanced version of the μPD72120 AGDC. It executes bit map graphics processing at high speed as a peripheral to a host CPU, reducing the host's workload and improving processing efficiency.

## Features

- Compatible with μPD72120 AGDC
- Higher speed drawing
  - 10-MHz drawing clock
- Large command set
  - Line drawing with graphics pen
  - Painting arbitrary or defined areas with tiling patterns
  - Enlarge, shrink, and arbitrary-angle rotate copy commands
  - Data transfer between system and display memory
- Flexible system configurations
  - Drawing can be performed on display or system memory space
  - Data bus can be used with most microprocessors
  - Independent drawing and display clocks
  - VRAM control
  - Laser printer interface controls
- Versatile drawing environment
  - Pipelined processing
  - Two X-Y coordinate systems can be defined
  - Conversion between one-dimensional and two-dimensional data arrays
  - Clipping/picking
- Improved painting performance
- Bit search command
- Vertical blank interrupt
- Bit reversal
- Drawing wait/retry timing
- CMOS technology
- Single +5-volt power supply

## Comparison of μPD72123 and μPD72120

Item	μPD72123	μPD72120
Clock frequency	10 MHz	8 MHz
X-Y coordinate systems	Two	One
Line pattern	32 bits	16 bits
Raster operations (no. of operands)	Three	Two
Tiling pattern (horizontal)	32 bits	16 bits
Trapezoid fill (lower line select)	✓	—
Paint speed	Increased	—
Paint stack area	Decreased	—
Graphics pen	✓	—
Bit search	✓	—
Vertical blank interrupt	✓	—
Laser printer control	✓	—
Drawing busy output signal	✓	—
Wait drawing cycle	✓	—
Retry drawing cycle	✓	—
Bit reversal	✓	—

## Ordering Information

Part Number	Package
μPD72123GJ-5BG	94-pin plastic QFP
L	84-pin PLCC

Block Diagram

