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

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Block Diagram