

FLOPPY DISK CONTROLLER FDC **Z765A**

GENERAL DESCRIPTION

The Z765A is an LSI Floppy Disk Controller (FDC) chip which contains the circuitry and control functions for interfacing a processor to four floppy disk drives. It supports IBM System 3740 Single Density format (FM) and IBM System 34 Double Density format (MFM) including double-sided recording. The Z765A provides control signals which simplify the design of an external phase-locked loop and write precompensation circuitry. The FDC simplifies and handles most of the burdens associated with implementing a floppy disk interface.

Handshake signals make DMA operation easily incorporated with the aid of an external DMA Controller chip, such as the Z80 DMA. The FDC operates in either the DMA or non-DMA mode. In the non-DMA mode the FDC generates interrupts to the processor every time a data byte is to be transferred. In the DMA mode, the processor need only load the command into the FDC and all data transfers occur under control of the FDC and DMA controllers.

The Z765A executes 15 commands; each command requires multiple 8-bit bytes to fully specify the operation which the processor wishes the FDC to perform.

FEATURES

- Address Mark detection circuitry internal to the FDC simplifies the phase-locked loop and read electronics. The track stepping rate, head load time, and head unloaded time are user-programmable.
- IBM-compatible format, single and double density
- Multi-sector and multi-track transfer capability
- Data scan capability, scans a single sector or an entire cylinder comparing byte-for-byte host memory and disk data.
- Power Supply 5V $\pm 10\%$
- Drives up to four floppy-disk drives (FDD)
- Data transfers in DMA or non-DMA mode
- Parallel seek operations on up to four drives
- Compatible with most general purpose microprocessors
- Single phase 8 MHz clock
- 40-pin DIP, 44-pin PLCC packaging

