

M52883FP

HARD DISK DRIVE
Pulse Peak Detector & Data Separator

DESCRIPTION

The M52883FP is a bipolar-CMOS monolithic IC designed for use with signal processor in disk drive systems.

In read mode, detects of read-out signal from Read/Write IC to peak point, transforms to pulse, divides data and clock, and decodes to NRZ signal from 1-7RLL codes.

In write mode, input write signal from host, and encodes to 1-7RLL codes from NRZ signal.

This device provides AGC amplifier, low-pass filter, differential amplifier, zero-cross comparator, sample/hold amplifier, PLL, 1-7RLL encoder/decoder, and write precompensation circuit.

The M52883FP requires only +5V power supply and is available in a 100-pin VQFP.

FEATURES**Total**

- Low power 500mW(TYP)
- Power saving function 5mW(Max) at sleep mode
- Stand by function 150mW, 40mW (TYP) at power save mode
- Only +5V power supply
- Compatible with 32Mbps operation
- Constant bit density recording application (max 32 steps)
- Programmable each function setting

Pulse Peak Detector Part

- Built-in AGC circuit (peak hold method, with gain/hold function)
- Built-in servo signal detector (A, B, C, D)
- Data decode method (level slice)
- Built-in low-pass filter
- Programmable low-pass filter cutoff frequency, attenuator magnitude and delay time in 16 steps setting

Data Separator Part

- Hard sector operation
- Encodes and decodes 1-7RLL codes
- Programmable data window-shift in ± 15 steps settings (1ns/step)
- Built-in accurate and stability PLL
- Changes charge pump current in two steps
- Changes charge pump gain rate in four steps
- Changes write precompensation delay in eight steps
- Built-in sync detector

RECOMMENDED OPERATING CONDITIONS

(Ta = 25°C, unless otherwise specified)

Supply voltage $V_{CC} = 5V \pm 10\%$

M52883FP

HARD DISK DRIVE
Pulse Peak Detector & Data Separator

BLOCK DIAGRAM