
PRODUCT INFORMATION

Vol.52

Designed for Low Power Dissipation and Easy Development of Control Software

Playback-only Portable MD Chip Set Developed

LC89640, LA9605W

Overview

The MiniDisc (MD) player has a bright future as a replacement for the compact cassette player in the portable audio player market, and, in fact, has experienced an accelerating sales growth in recent months. According to an EIAJ survey of portable MD player sales, 1.25 million units were shipped in Japan in 1996, and over 10 million units are expected to be shipped annually in the year 2000. Thus this product is expected to become the leading product in the portable audio equipment field.

When first developed, the MD's recording abilities were seen as its main feature. However, playback-only models, used as portable audio devices, have become the mainstream in MD products, and the competition to produce even more compact products and to provide even longer battery life has become fierce.

Given this background, we at SANYO have developed a portable MD IC chip set consisting of the LC89640 and the LA9605W, which is specialized for playback-only systems.

This newly developed chip set uses a 4-MHz internal clock rate, and achieves the industry's lowest operating power dissipation: 120 mW. At the same time, from the standpoint of end product development, this chip set provides macro commands such as play and scan to make microcontroller software development extremely simple. It also provides digital servo and automatic adjustment functions to flexibly support a wide range of pickups and discs.

This newly developed chip set can be used to implement simple playback-only portable MD players that feature low power dissipation.

Features and Functions

LC89640

- Uses a 384fs (16.9344 MHz) master clock
—Internal operation is at 4.23 MHz.

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- An EFM/ACIRC decoder circuit is built in
 - Powerful error correction: dual error correction in C1 and quadruple error correction in C2.
- Digital servo and automatic adjustment functions
- SPP (anti-shock control) circuit
 - Support the use of 4M and 16M external DRAMs
- Provides a full complement of intelligent commands for easy implementation of playback functionality.
- ATRAC decoder circuit
 - High-precision calculation using full floating-point arithmetic
 - Low power design using a multiplier circuit
- Built-in 1-bit D/A converter
 - Digital deemphasis function
 - Digital bass boost function
 - Digital attenuator
- Supply voltage: 3 V \pm 10%
- Package: 100-pin flat package (lead pitch: 0.5 mm)

LA9605W

- Servo signal-processing circuit
 - I-V conversion amplifier
 - Focus error amplifier
 - Tracking error amplifier
 - VCA
- RF signal-processing circuit
 - Pit/groove switching RF amplifier
 - RF equalizer amplifier
- APC circuit
- Defect detection circuit
- Pre-pit circuit (pit/groove discrimination circuit)
- Supply voltage: 2.7 to 5.5 V
- Package: 48-pin flat package (lead pitch: 0.5 mm)

Sample Availability

Samples of the LC89640, LA9605W Series are available in November 1997; production quantities are anticipated in the Spring of 1998.

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PRODUCT INFORMATION

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