
PRODUCT INFORMATION

Vol. 63

Video Camera Motor Driver Developed

The industry's first IC that integrates the capstan, drum, and loading motor drivers in a single chip.

LB1990W

Overview

Miniaturization and extended battery life have become major sales points in the video camera market, and thus take on critical importance in end product development. These demands for reduced power and miniaturization thus also apply to the components used in these products, and higher levels of integration and miniature packages are desired in the ICs used in these products.

Most video cameras use several motors. In particular, tape handling requires at least a capstan, a drum, and a loading motor. Previously, either an independent driver IC was used for each motor, or else a transistor array controlled by an integrated controller IC was required.

Sanyo has now developed the industry's first motor driver IC, the LB1990W, that fully integrates on a single chip all functionality from control through drive for all three of these video camera motors, i.e. the drum, capstan, and loading motors.

The LB1990W also integrates the sensor amplifiers required for the drum, capstan, and loading motors on the same chip. It achieves power savings by adopting a motor voltage control technique. Furthermore, it is optimal for digital video cameras, since it uses sensorless drive for the drum motor and achieves low-noise operation.

The LB1990W is provided in an SQFP-64 package with a mold size of 10 × 10 mm, and can achieve a mounting area reduction of over 20% when compared to earlier Sanyo products that required three chips for the same functionality.

Features

- Control and drive of the capstan, drum, and loading motors from a single chip
- Power savings provided by the adoption of a motor voltage control technique.
- Sensorless drive (of the drum motor)
- Supports end product miniaturization by providing mounting area reductions.

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Functions

- Two reel amplifier channels
- Capstan motor FG amplifier
- Drum motor FG and PG amplifiers
- Thermal shutdown function

Sample Availability

Sample of the LB1990W is available in August 1998; production quantities will be anticipated in the spring of 1999.

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