查询SMA4201供应商

SANYO

PRODUCT INFORMATION

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Optical Pickup High-Frequency Superposition IC Developed

Industry's smallest device achieved by integration on a single chip

SMA4201

Background

Due to their short wavelengths and high outputs, single mode lasers are widely used as the lasing element in the optical pickups used in DVD, MD, CD-R, and similar equipment to read and write signals from the recording media. The high-frequency superposition technique is used as a means for reducing the laser noise associated with these devices. Until now, high-frequency superposition circuits have been implemented either as modules consisting of discrete transistors or as gallium arsenide (GaAs) ICs. However, due to desires for further miniaturization and reduced costs in these products, there are now strong desires for more compact high-frequency superposition circuits implemented as silicon-based ICs.

Overview

Sanyo's high-performance microwave silicon bipolar transistor and MMIC (monolithic microwave integrated circuits) products, which are based on Sanyo's unique silicon high-frequency device technology, have been well received in the market. Now, Sanyo has succeeded in developing and releasing as a commercial product the SMA4201 ultraminiature optical pickup high-frequency superposition IC, which is based on Sanyo's unique high-frequency device circuit technology and Sanyo's 16-GHz high fT (cutoff frequency) silicon bipolar fabrication process.

Sanyo is committed to an active and forward-looking program of developing oscillator circuit device products using this unique silicon high-frequency device technology and expanding its business in this area. These products will be optimal for portable digital equipment applications, and will range from the optical pickup device mentioned above to devices for use in portable telephones and notebook personal computers.

PRODUCT INFORMATION

Features

• Extreme miniaturization achieved by adopting a miniature molded package

(MCP6: 2.0 × 1.25 mm)

This IC integrates an oscillator circuit and an output amplifier circuit on a single chip packaged in the MCP6 package for ultracompact surface mounting. Thus this IC can contribute to miniaturization of optical pickup systems.

• Low-voltage operation: V_{CC} = 3.0 to 3.5 V

This device achieves 3-V low-voltage operation and aims at improved reliability by adopting gold electrodes (a gold, platinum, and titanium alloy) and Sanyo's unique high-performance silicon bipolar process that features a transistor cell with a high-precision submicron emitter, an extremely shallow junction formation technology, and a process that reduces parasitic capacitances.

• Allows the selection of an oscillator frequency in the 200-MHz to 700-MHz range

Since the SMA4201 supports oscillator frequencies in the 200-MHz to 700-MHz range, it supports the optical pickups used in MD, CD-R, DVD and DVD-ROM players and drives.

Specifications

Electrical Characteristics at Ta = 25°C

Item	Symbol	Test condition	Typical value	Unit
Circuit current	I_{CC}	V_{CC} = 3 V	11	mA
Output power	P_{OSC}	V_{CC} = 3 V, f_{OSC} = 450 MHz, R_L = 50 Ω	–3	dBm

Sample Availability

Sample of the SMA4201 will be available in March 1999; production quantities will be anticipated in the end of 1999.

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PRODUCT INFORMATION

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