PRODUCT INFORMATION

Vol.88

Ultraminiature GaAs Switch MMIC Developed

High performance achieved in the Industry's smallest package.

SPM3203

Overview

The scale of the mobile communication equipment (e.g. portable telephones) market reached 150 million units world wide in 1998, and is expected to reach 250 million units in 1999. Furthermore, the use of mobile equipment as terminals to information services has been growing rapidly, and a global standard is expected to lead to further advances in multimedia.

Due to these market directions, there are now strong demands for improved audio communication quality and increased functionality in mobile communication terminals. To meet these market needs, there are now strong demands for miniaturization, reduced weight, and reduced parts counts in the RF switch used in mobile portable communication telephones and terminals.

Sanyo has now developed an ultraminiature GaAs switch MMIC, the SPM3203, that features superb characteristics and concern for the environment.

The SPM3203 represents a further evolutionary step for Sanyo's switch MMIC optimized design technology, a technology that has a strong track record in mobile communication equipment. By optimizing the process technology, layout design, and circuit design, Sanyo succeeded in achieving both improved performance and further miniaturization in the SPM3203.

Further miniaturization was achieved in the SPM3203 by the use of a newly established high-density design technology. This allows the SPM3203 to be provided in the ultraminiature MCP6 package, which reduces the mounting area by 1/2 as compared to earlier Sanyo products, and achieves the industry's smallest package for this class of device. This product requires only 3 external components, thus achieving the industry's smallest number of external components.

The SPM3203 achieves (1) an insertion loss, the loss when the high-frequency power passes through the switch, of 0.55 dB, (2) an isolation, the leakage to the off side of the switch, of 21 dB, a 1 dB improvement over earlier Sanyo products, and (3) linearity characteristics, which represent the distortion of the output signal with respect to the high-frequency input signal, of 20 dBm.

Sanyo is committed to continue expanding their product line of RF devices in the ECoP (Environmentally Considered Products) Series.

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Sanyo has applied for five patents related to this product.

Features

- Adoption of the MCP6 ultraminiature package (external dimensions: 2.0 ×2.1 ×0.9 mm) reduces the mounting area by 1/2 as compared with earlier products.
- Easy-to-use dual supply (+3 and 0 V) control voltage system
- Achieves the industry's smallest number of external components: 3 components.
- Low insertion loss
- High isolation
- High linearity
- Highly resistant to device destruction caused by electrostatics.

Specifications

Type No.	f (GHz)	Insertion loss (dB)	Insolation (dB)	Po1 dB (dBm)	Structure	Package
SPM3203	0.9	0.55	21	20	SPDT	MCP6

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Sample Availability

The SPM3203 will be available in sample quantities by mid September 1999, and in production quantities (1 million units per month) by September 2000.

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