March 24, 2004

Low voltage, low consumption current, and small package the best for portable usage

Laser driver IC development for Hi-MD

<table>
<thead>
<tr>
<th>Model name</th>
<th>LA9450CL</th>
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<tbody>
<tr>
<td>Sample shipment beginning</td>
<td>April, 2004</td>
</tr>
<tr>
<td>Production plan</td>
<td>Q3,500,000 piece/month of 2004</td>
</tr>
<tr>
<td>Price of sample</td>
<td>240 yen</td>
</tr>
</tbody>
</table>

Inquiries from customer

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I. Outline

The number of the shipment has increased to MD (Mini Disk) which appeared to the market in 1992 during the year by making function about the MDLP standard etc. by which four high density times record in addition to the progress of the miniaturization portable product and the price cutting are achieved in various portable audio equipments in a domestic market now.

さらに先頃、専用記録メディア1枚で最大45時間の音楽記録保存を可能とし、電子音楽配信に対応するNet MDと同様にパソコン接続が行え、音楽記録以外のデータファイル（映像データなど）も保存可能となるHi-MD規格が新たに発表され。The activation of the market is expected.

Recently, our company developed laser driver IC LA9450CL for an optical picking up by which the best low voltage drive for Hi-MD equipment was achieved.

LA9450CL enclosed two chips of low saturation PNP transistor \((V_{cesat}=40mV/Ic=100mA,\beta=20)\) for necessary pulse driver IC DC mode when data was read with original, small package ECSP (*yo*) at the data logging of MD.

The power-supply voltage was assumed the best low voltage \((Vcc1=2.0V \text{ min}, Vcc2=2.6V \text{ min})\) specification for portable Hi-MD and corresponded to two power supplies (the DC mode and the PULSE mode). In addition, low consumption current \((Icc1=500\mu A)\) achieved by the low consumption current making design of the circuit.

ECSP (Environmentally-considered Chip Scale Package) is a registered trademark of Sanyo Electric Co., Ltd.

II. Feature

1. Two power supplies a package (the DC mode (The supply by \(Vcc1=2.4V\)) and PULSE modes (The supply by \(Vcc2=2.8V\))) installed.
2. Low voltage \((Vcc1=2.0V \text{ min}, Vcc2=2.6V \text{ min})\) drive and current \((Icc1=500\mu A)\) of low consumption are achieved.
3. The drive of LD (laser diode) is achieved by a low voltage (about 150mV) because the DC mode uses low saturation PNP transistor, and, therefore, the power-supply voltage of \(Vcc1\) is operation voltage (for instance, 2.3V)\(^\ast\) about 150mV of \(L(Vcc1=2.45V)\) possible.
4. It is the best for building light pick up into because of installing in a small package (Externals size:3mm\(\times\)2mm and 0.8mm height).

III. Specification

- Two power supply switch of DC mode and pulse mode
- operation power-supply voltage: \(Vcc1=2.0-3.5(V)\) and \(Vcc2=2.6-3.5(V)\)
- the maximum output current:150 (mA)
- About 3 about 1nsec and risetime = standing fall time = nsec
- package:ECSP3020-10 (0.8mm in 3mm\(\times\)2mm height)

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