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Renesas Electronics Corporation

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H8/300H SLP Series

LCD Display Using External Brightness Adjustment Circuit

Introduction

The purpose is to adjust the brightness of the LCD panel by connecting an external brightness adjustment circuit.

Target Device

H8/38076R

Contents

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1. Usage

In this example task, an external power supply for the drive power supply for the LCD controller/driver of the H8/38076R is used. The V1 pin is connected to the Vcc pin through a variable resistor. By adjusting the resistance of the variable resistor, you can adjust the brightness of the LCD panel. Figure 1 shows an example connection of the brightness adjustment circuit.

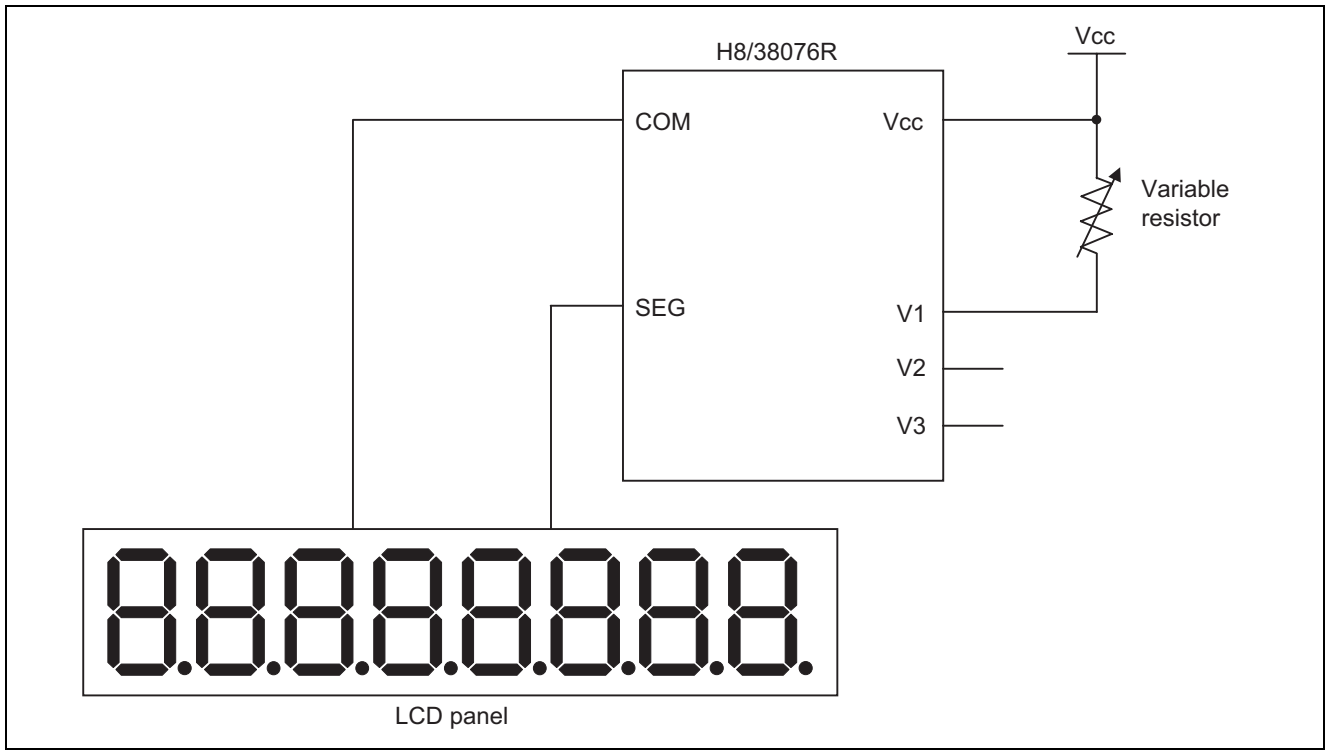

Figure 1 Example Connection of Brightness Adjustment Circuit

2. Description of Functions

The functions of this sample task are described below. In this example task, the LCD drive power supply uses external power supply because an external brightness adjustment circuit is connected. Before using it, you need to set the PSW bit of the LCD control register (LCR) to 0.

- LCD control register (LCR) Address: H′FFA1
  This register controls the LCD drive power supply and displayed data as well as selecting a frame frequency.

Bit	Bit Name	Setting	R/W	Function
6	PSW	0	R/W	Control of the LCD drive power supply The LCD drive power supply can be turned off when the LCD display is not required in the power-down mode or when an external power supply is used. When the ACT bit is set to 0 or the standby mode is set, the LCD drive power supply is turned off, regardless of the setting of the PSW bit. 0: Turns off the LCD drive power supply. 1: Turns on the LCD drive power supply.

3. Overview of Operation

Figure 2 and table 1 give an overview of operation of this sample task. Changing the resistance of the external variable resistor will change the brightness of the LCD panel.

Table 1 Overview of Operation

Resistance between the Vcc and V1 pins	High	◄——►	Low
Input voltage to the V1 pin	Low	◄——►	High
Brightness of the LCD panel	High	◄——►	Low

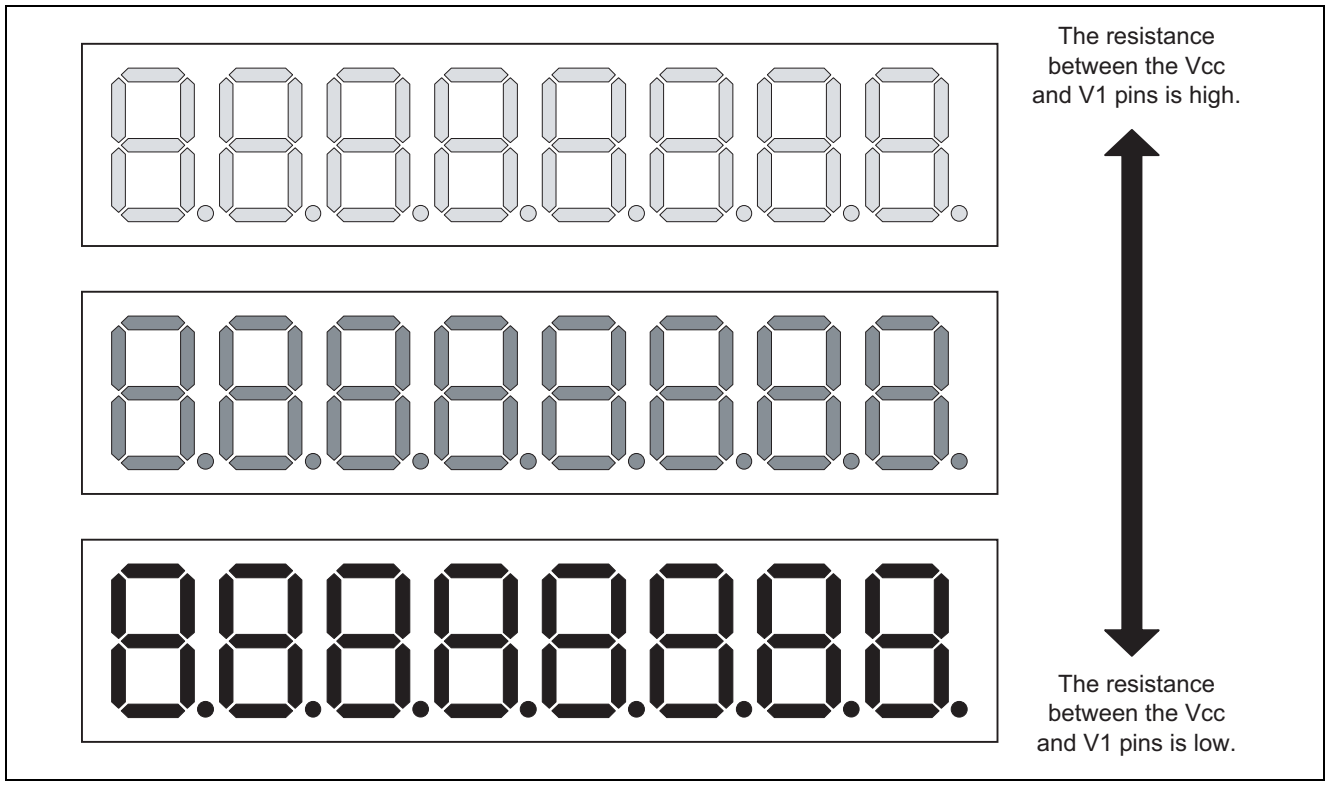

Figure 2 Overview of Operation

Revision Record

Rev.	Date	Description	
		Page	Summary
1.00	Sep.16.04	—	First edition issued

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