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## LCD Driver IC with Key Input Function

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**PT6553**

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### DESCRIPTION

PT6553 is an LCD Driver IC providing key scan circuitry which can accept up to a maximum of 30 keys, thereby, reducing printed circuit board wiring. It can drive up to 126 segments and is capable of controlling up to 4 general purpose output ports. The reset circuit provides on-chip voltage detection making it possible to prevent incorrect displays. Pin assignments and application circuit are optimized for easy PCB layout and cost saving advantages.

### FEATURES

- Up to 126 Segments Outputs
- Up to 4 General Purpose Output Ports
- Key Input Function (up to 30 Keys)
- 1/3 Duty - 1/2 Bias and 1/3 Duty - 1/3 Bias Drive Techniques
- Sleep Mode and all Segments OFF Function
- Direct Display of Display Data without using a Decoder
- On-Chip Voltage-Detection Type Reset Circuit
- RC Oscillation Circuit

### APPLICATIONS

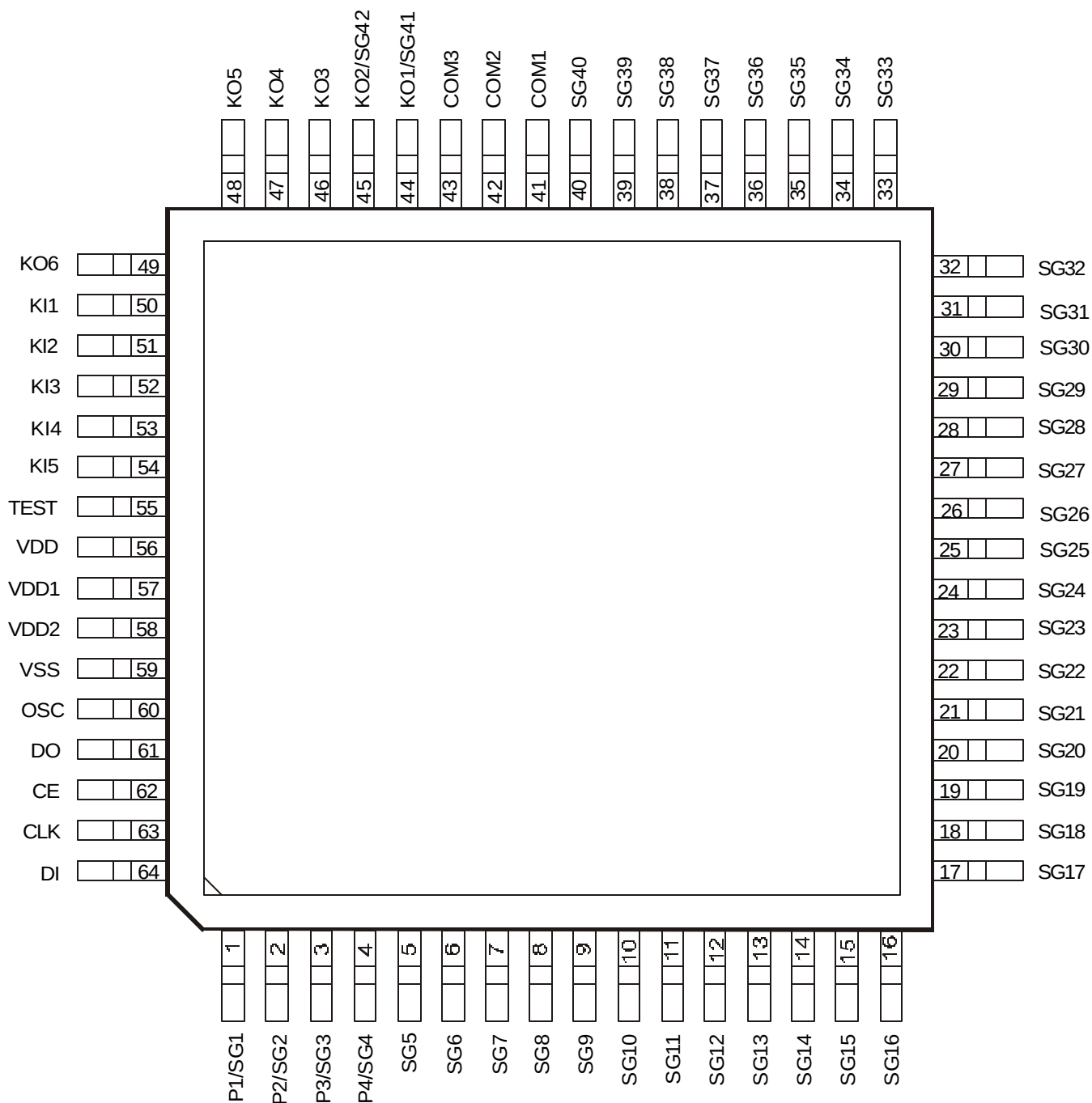
- Cellular Phone
- Data Bank, Organizer
- Electronic Dictionary/Translator
- P.D.A.
- P.O.S.
- Information Appliance
- Caller ID
- Pager
- Electronic Equipment with LCD Display



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PIN CONFIGURATION



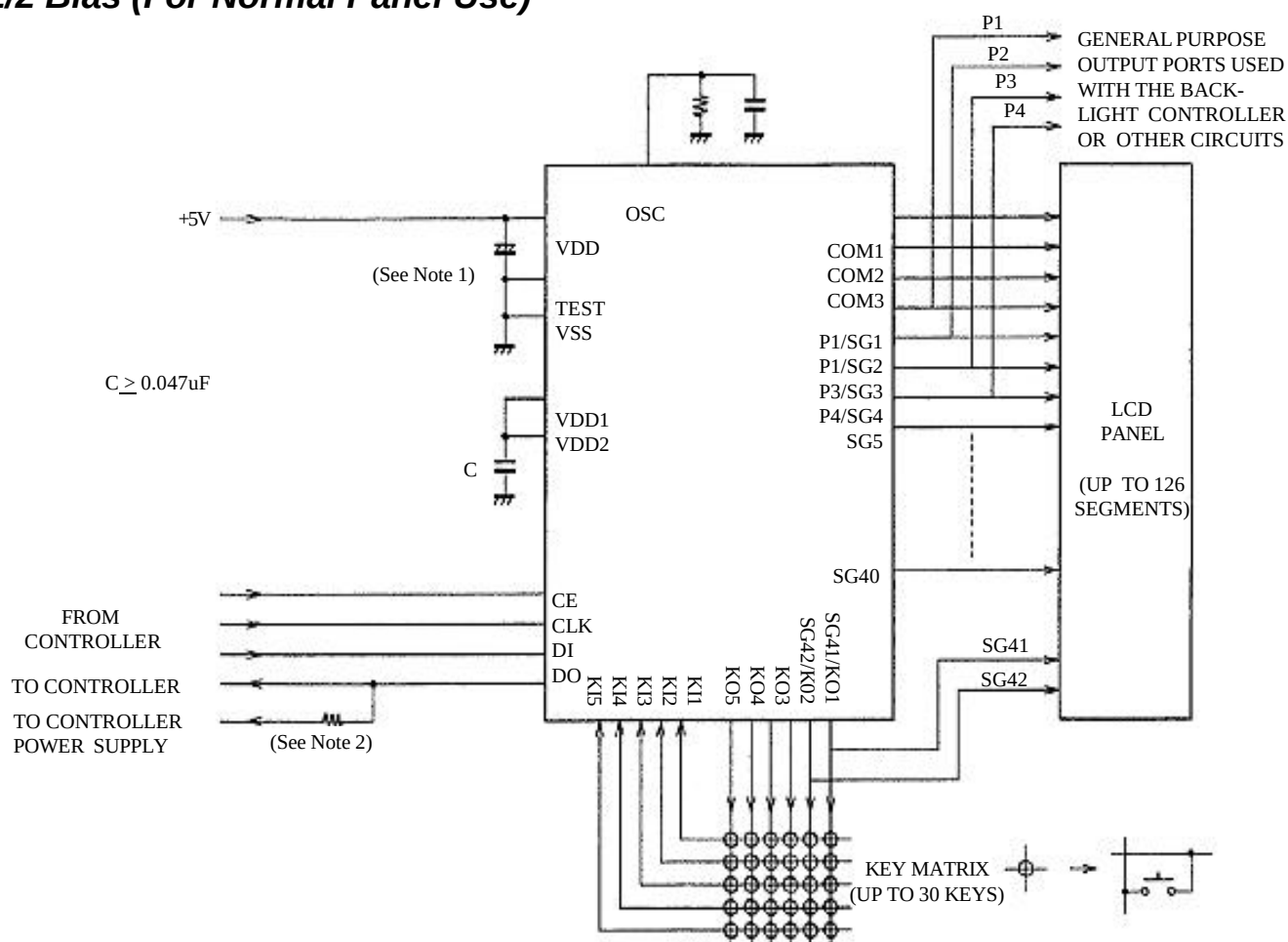


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### APPLICATION CIRCUIT 1

#### 1/2 Bias (For Normal Panel Use)



- Notes :
1. Connect a capacitor to the power supply line so that when the PT6553 is reset by the VDET, the power supply VDD rise time when power is applied and the power supply voltage VDD fall time when power drops are both at least 1 ms.
  2. Since the DO Pin is an open drain output, it needs a pull-up resistor (1K to 10K Ohms) which is appropriate for the capacitance of the external wiring so that the waveforms are not degraded.

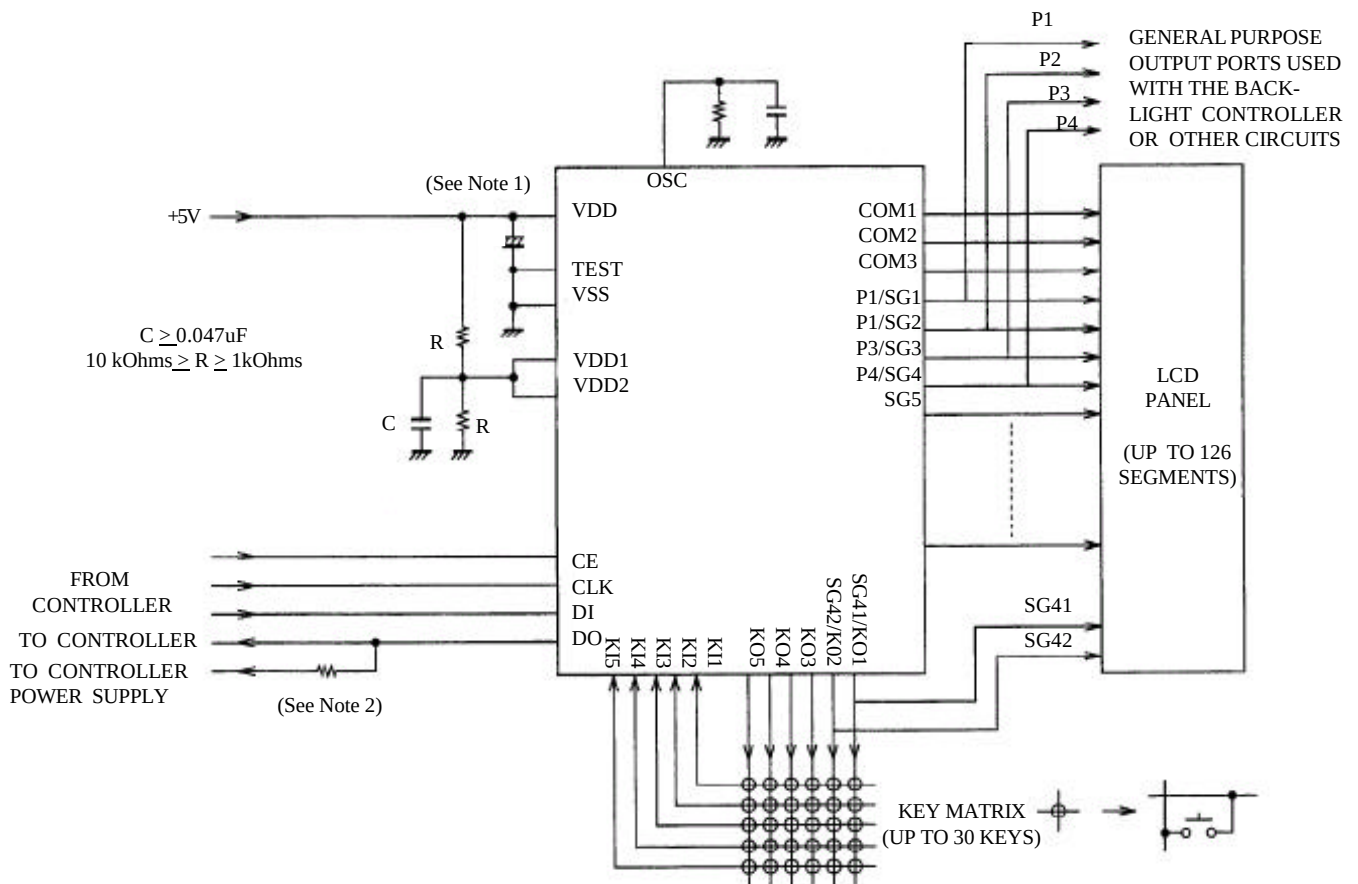


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## APPLICATION CIRCUIT 2

### 1/2 Bias (For Normal Panel Use)



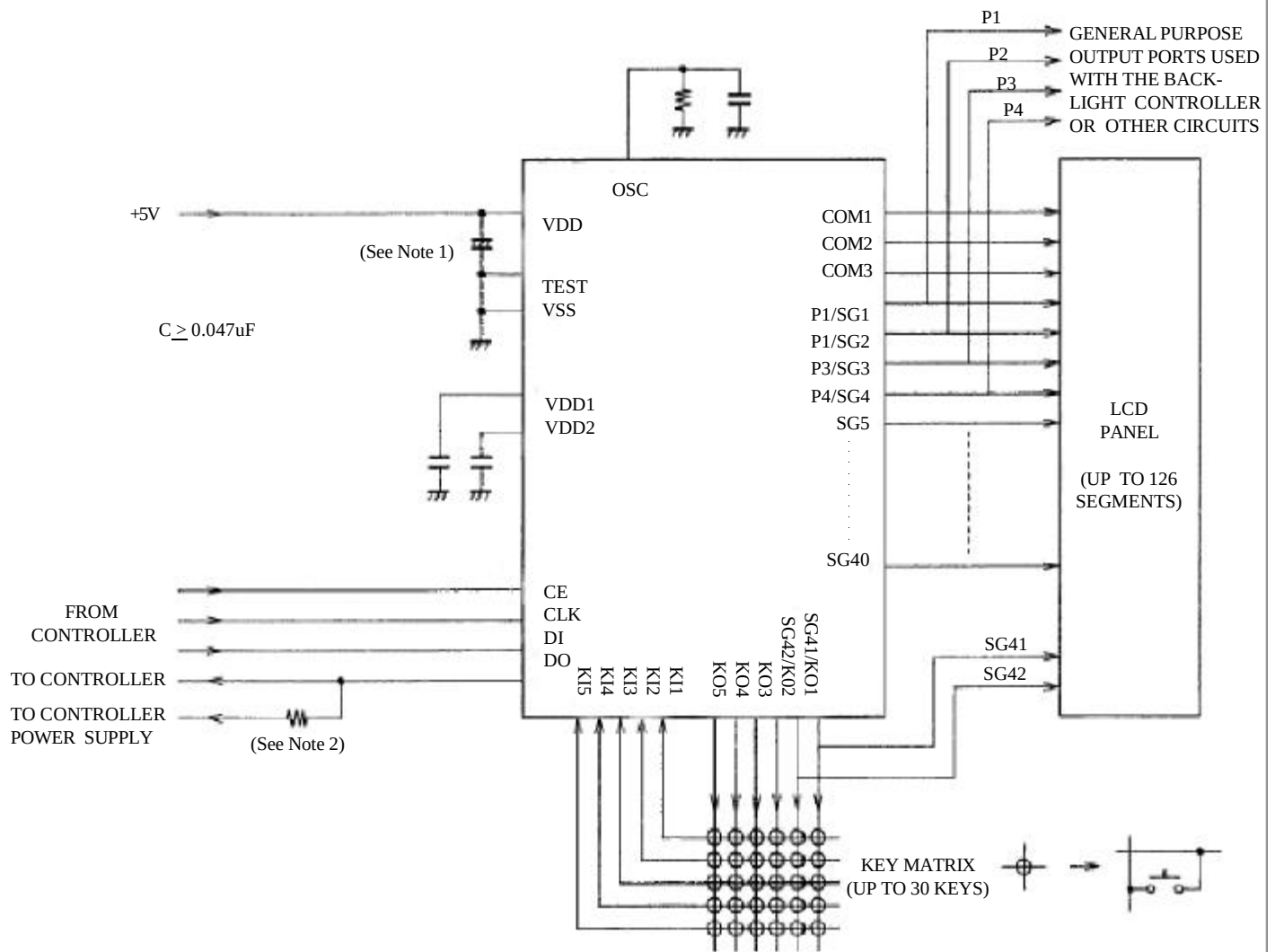
- Notes : 1. Connect a capacitor to the power supply line so that the when the PT6553 is reset by the VDET, the power supply VDD rise time when power is applied and the power supply voltage VDD fall time when power drops are both at least 1 ms.
2. Since the DO Pin is an open drain output, it needs a pull-up resistor (1K to 10K Ohms) which is appropriate for the capacitance of the external wiring so that the waveforms are not degraded.

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## APPLICATION CIRCUIT 3

### ***1/3 Bias (For Normal Panel Use)***



Notes : 1. Connect a capacitor to the power supply line so that the when the PT6553 is reset by the VDET, the power supply VDD rise time when power is applied and the power supply voltage VDD fall time when power drops are both at least 1 ms.

2. Since the DO Pin is an open drain output, it needs a pull-up resistor (1K to 10K Ohms) which is appropriate for the capacitance of the external wiring so that the waveforms are not degraded.

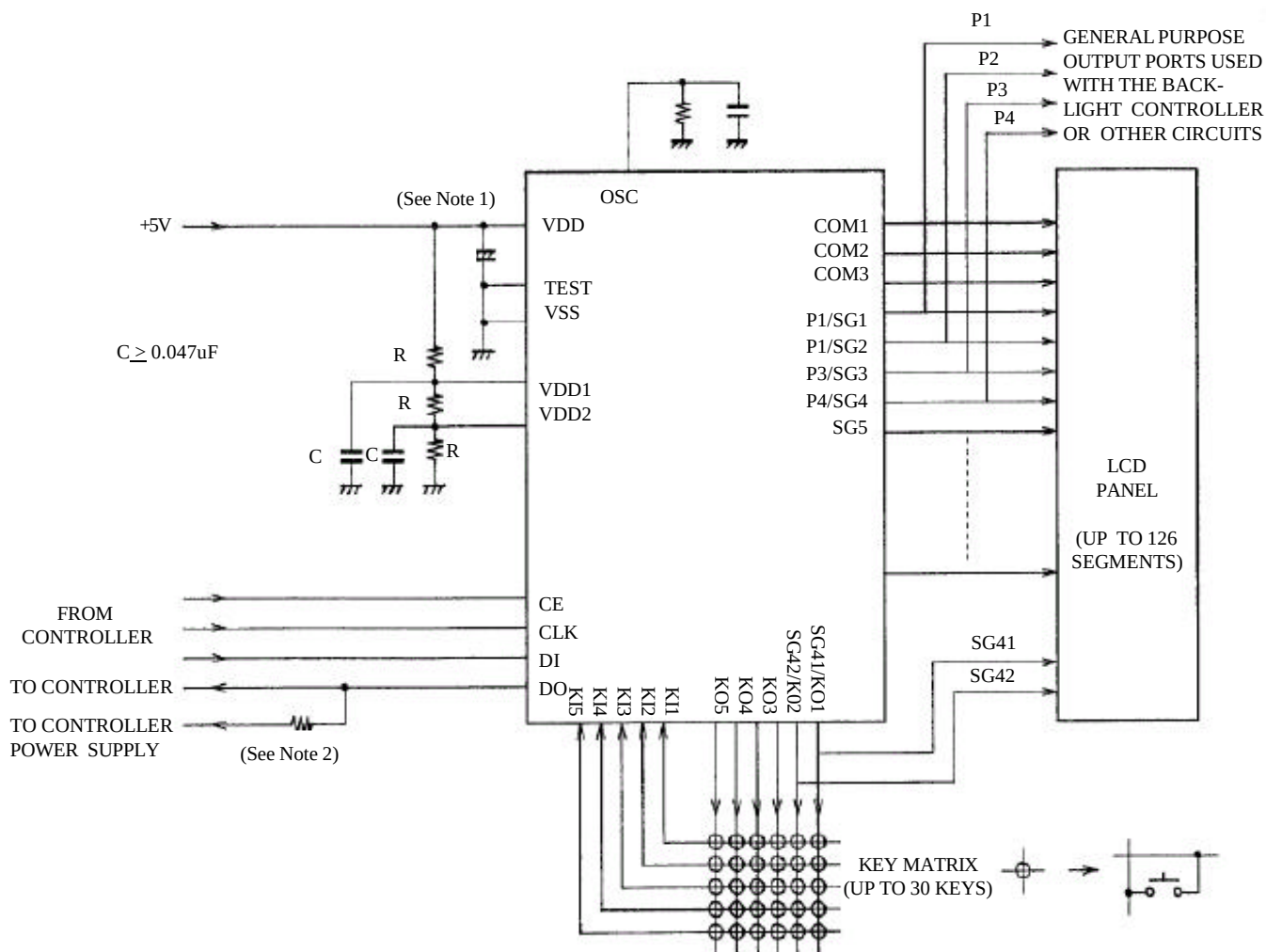


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### APPLICATION CIRCUIT 4

#### 1/3 Bias (For Large Panel Use)



- Notes : 1. Connect a capacitor to the power supply line so that the when the PT6553 is reset by the VDET, the power supply VDD rise time when power is applied and the power supply voltage VDD fall time when power drops are both at least 1 ms.
2. Since the DO Pin is an open drain output, it needs a pull-up resistor (1K to 10K Ohms) which is appropriate for the capacitance of the external wiring so that the waveforms are not degraded.



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## ORDER INFORMATION

| Valid Part Number | Package Type          |
|-------------------|-----------------------|
| PT6553            | 64 Pins, QFP Package  |
| PT6553-LQ         | 64 Pins, LQFP Package |