

**Preliminary** TOSHIBA CMOS Digital Integrated Circuit Silicon Monolithic

# T6K34

## Row Driver LSI for Dot Matrix Graphic LCD

The TOSHIBA T6K34 is a row (common) driver for a small-to-medium-sized dot matrix graphic LCD.

The T6K34 has 168 outputs for LCD driver signals (common).

The T6K34 contains a power supply circuit with electronic volume enabling the LCD to be driven by a single power supply.

Thus, in combination with a T6K33/S6B0021 (by Samsung) segment driver, the T6K34 can be used to implement a low-power LCD system without the need for a separate power supply IC.

### Features

- LCD drive outputs: 168 common outputs
- Operating voltage:  $V_{DD} = 1.8\text{ V} \sim 3.3\text{ V}$ ,  $V_{IN} = 2.7\text{ V} \sim 3.6\text{ V}$   
( $V_{DD} \leq V_{IN}$ )
- LCD drive voltage: 28.8 V (max)
- Booster circuit:  $V_{IN} \times (-6)$  max
- Contrast control: 64 steps (max)
- Partial display function
- CMOS process
- Package: Bump chip (COF), TCP (tape carrier package)
- Low power consumption:  $I_{SS} = 225\text{ }\mu\text{A}$  (typ.) ..... Design target  
Conditions:  $V_{DD} = V_{IN} = 3.0\text{ V}$ , using  $\times 5$  booster,  
LCD non-lead,  $T_a = 25^\circ\text{C}$ , 1/168 duty, 1/6 bias,  
 $PCK = 15\text{ kHz}$ , contrast = 20H
- Voltage regulator: Temperature coefficient =  $-0.0\%/^\circ\text{C}$  (typ.)  $\pm 0.04\%/^\circ\text{C}$

Unit: mm		
T6K34	Lead Pitch	
	IN	OUT
Please contact Toshiba Agents for each Packaging Outline Dimensions.		
TCP (Tape Carrier Package)		

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- Light striking a semiconductor device generates electromotive force due to photoelectric effects. In some cases this can cause the device to malfunction.  
This is especially true for devices in which the surface (back), or side of the chip is exposed. When designing circuits, make sure that devices are protected against incident light from external sources. Exposure to light both during regular operation and during inspection must be taken into account.
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