



# LB1241

## Fluorescent Display Tube Driver

### Overview

The LB1241 has been designed for interfacing low-level digital devices to fluorescent display tubes. Its 8-circuit independent Darlington output stage is used for digit and segment drivers. Equivalent pull-down resistors are built in ; externally connected resistors to prevent ghosts are no longer required. Output is activated when input voltages are at a low level, making the IC an ideal interface for N-channel MOS devices.

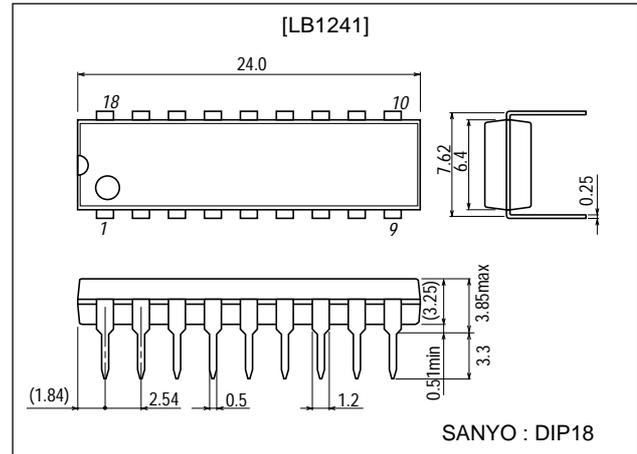
### Features

- 8 circuit independent Darlington driver.
- Capable of driving digits or segments.
- Built-in pull-down sink current.
- Rated at 45V/30mA
- Large pull-down current and capable of preventing ghost effectively.

### Package Dimensions

unit:mm

3007B-DIP18



### Specifications

**Absolute Maximum Ratings** at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$		-0.3 to +45	V
Output supply voltage	$V_{OUT}$		-0.3 to $V_{CC}$	V
Input supply voltage	$V_{IN}$	$GND < V_{IN}$	$V_{CC} - 10$ to $V_{CC}$	V
Maximum output current	$I_{OUT}$		-30	mA
Allowable power dissipation	$P_d\ max$		1130	mW
Operating temperature	$T_{opr}$		-20 to +75	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to +150	$^\circ\text{C}$

**Allowable Operating Ranges** at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	$V_{CC}$		4.75 to 45	V
Input H-level voltage	$V_{IH}$	$GND < V_{IN}$ , $I_{OUT} = -30\text{mA}$	$V_{CC} - 10$ to $V_{CC} - 2.8$	V
Input L-level voltage	$V_{IL}$	$I_{OUT} \leq -30\mu\text{A}$	$V_{CC} - 0.45$ to $V_{CC}$	V

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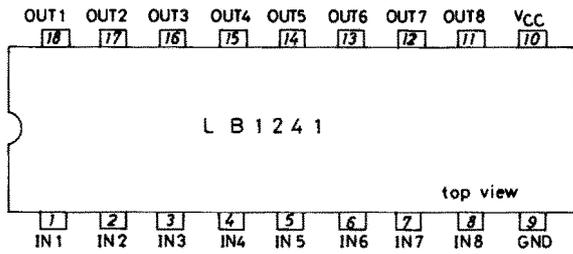
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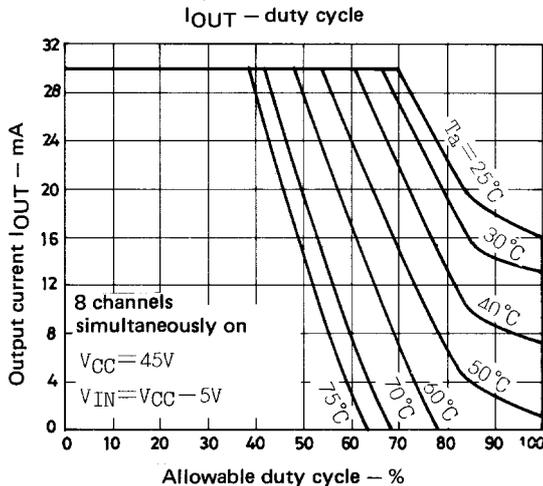
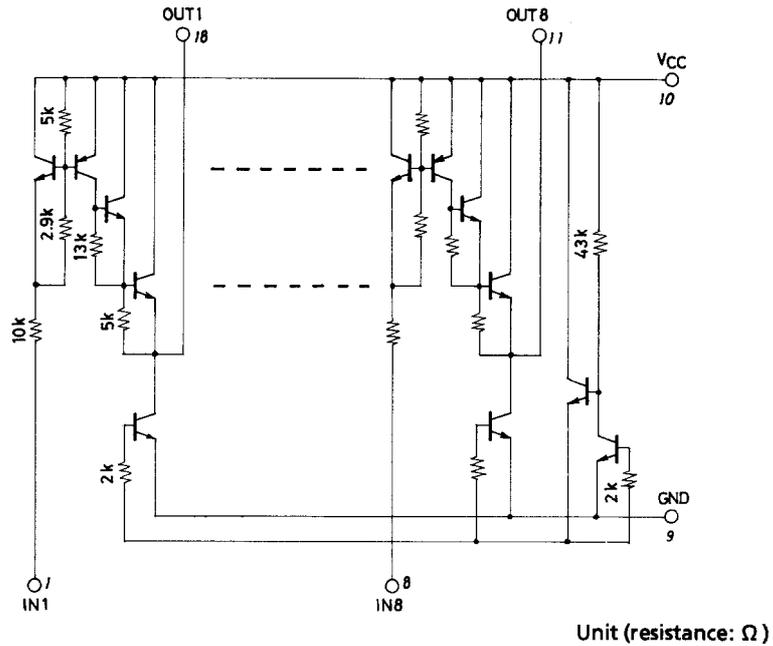
## Electrical Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC}=45\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current drain	$I_{CCL}$	All inputs : open	0.6	1.3	2.3	mA
	$I_{CCH}$	All inputs : $V_{IN}=V_{CC}-5\text{V}$	7.0	10	16	mA
Output voltage	$V_{OL}$	$V_{IN}=V_{CC}-0.3\text{V}$ , $I_{OUT}=0\text{mA}$			200	mV
	$V_{OH}$	$V_{IN}=V_{CC}-5\text{V}$ , $I_{OUT}=-30\text{mA}$	$V_{CC}-2.0$	$V_{CC}-1.6$		V
Pull-down current	$I_{OPL}$	$V_{OUT}=V_{CC}$	0.6	1.0	1.8	mA
Input current	$I_{IN1}$	$V_{IN}=V_{CC}-5\text{V}$	0.2	0.4	0.6	mA
	$I_{IN2}$	$V_{IN}=V_{CC}-10\text{V}$	0.6	0.9	1.3	mA
Output leakage current	$I_{OL}$	$V_{IN}=V_{CC}-0.3\text{V}$ , $V_{OUT}=0.5\text{V}$	-30			$\mu\text{A}$

## Pin Assignment



## Equivalent Circuit



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