



LB1245

Active-Low Input Fluorescent Display Tube Driver

Overview

The LB1245 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. (V_{DD} , V_{SS} of IC can be made common to V_{DD} , V_{SS} of the LB1245.)

Features

- 8-channel independent Darlington driver.
- Capable of driving digits or segments.
- Built-in pull-down sink current.
- Rated at 55V/30mA

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 +55.0	V
	V_{DD} max	$V_{DD} \leq V_{CC} - 2.0\text{V}$	-0.3 to +10.0	V
Output supply voltage	V_{OUT} max		-0.3 to V_{CC}	V
Input supply voltage	V_{IN} max	$V_{IN} \geq 0$	$V_{CC} - 10$ to V_{DD}	V
Maximum output current	I_{OUT} max		30	mA
Allowable power dissipation	P_d max		1.13	mW
Operating temperature	T_{opr}		-20 to +75	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +150	$^\circ\text{C}$

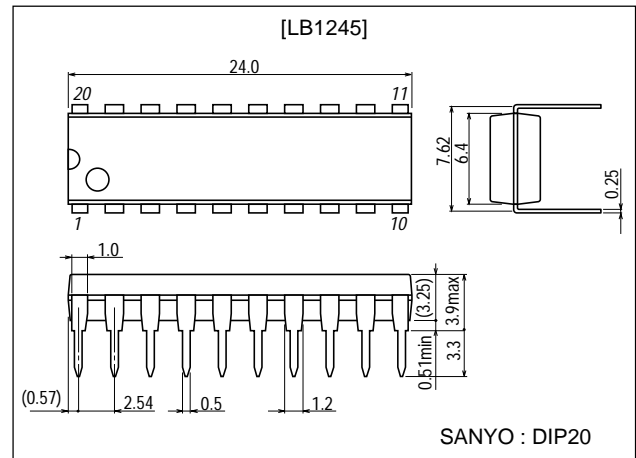
Allowable Operating Ranges at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		5.5 to 55	V
	V_{DD}	$V_{DD} \leq V_{CC} - 2.0\text{V}$	3.5 to 10	V
Input ON level voltage	V_{ION}	$V_{IN} \geq 0$, $I_{OUT} = -30\text{mA}$	$V_{DD} - 10$ to $V_{DD} - 3.2$	V
Input OFF level voltage	V_{IOFF}	$I_{OUT} \geq -30\mu\text{A}$	$V_{DD} - 0.4$ to V_{DD}	V

Package Dimensions

unit:mm

3021C-DIP20



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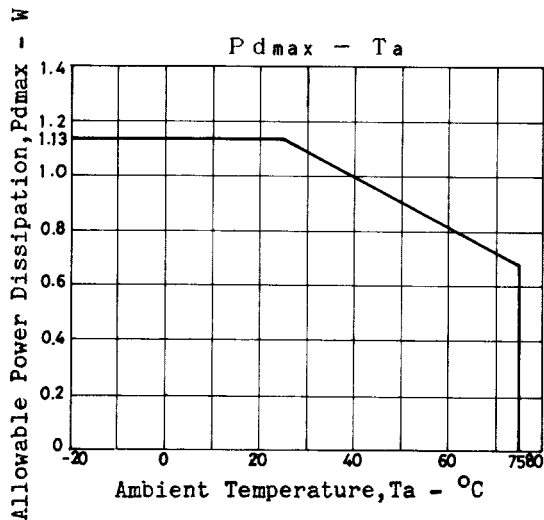
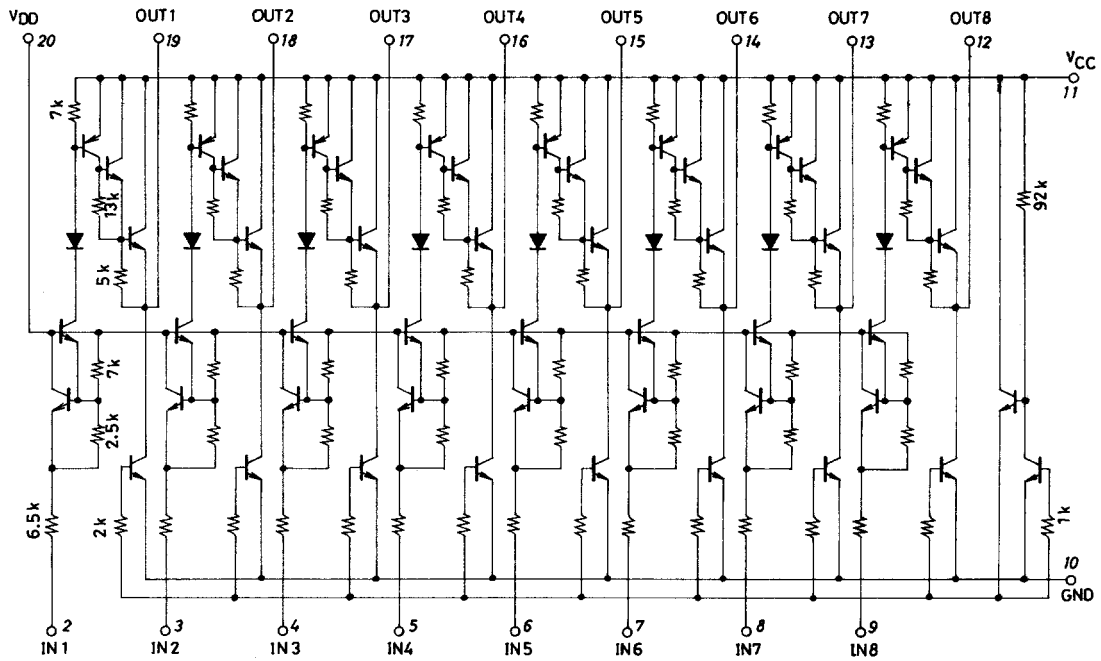
LB1245

Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC}=55\text{V}$, $V_{DD}=5.0\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current drain	I_{CCL}	All inputs : open			2.0	mA
	I_{CCH}	All inputs : $V_{IN}=V_{DD}-5\text{V}$			14	mA
	I_{DDH}	All inputs : $V_{IN}=V_{DD}-5\text{V}$			6.5	mA
Output voltage	V_{OL}	$V_{IN}=V_{DD}-0.4\text{V}$, $I_{OUT}=0\text{mA}$			200	mV
	V_{OH}	$V_{IN}=V_{DD}-5\text{V}$, $I_{OUT}=-30\text{mA}$	$V_{CC}-2$			V
Pull-down current	I_{OPL}	$V_{OUT}=V_{CC}$	0.2	0.4	1.0	mA
Input current	I_{IN1}	$V_{IN}=V_{DD}-5\text{V}$	-0.8			mA
	I_{IN2}	$V_{DD}=10\text{V}$, $V_{IN}=V_{DD}-10\text{V}$	-1.9			mA
Output leakage current	I_{OL}	$V_{IN}=V_{DD}-0.4\text{V}$, $V_{OUT}=0.5\text{V}$	-30			μA

Equivalent Circuit

Unit (resistance: Ω)



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