



# LB1745

## Octal High-Voltage, Current-Source Output Driver

### Overview

The LB1745 is an octal high-voltage current source output driver with active-low inputs. High output drive capability for low input current is achieved with NPN Darlington-pair output drivers.

The LA1745 sources up to 500mA from each driver at supply voltages of up to 50V. It is available in 18-pin plastic DIPs.

### Features

- Eight independent Darlington-pair driver circuits.
- High-voltage, high-current source.
- Output clamp diodes.
- Input protection diodes.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\text{ max}}$		-0.3 to +50	V
Applied output voltage	$V_{OUT}$		-0.3 to $V_{CC}$	V
Applied input voltage	$V_{IN}$		-0.3 to $V_{CC}$	V
Maximum output current	$I_{OUT}$	Per driver	-500	mA
Clamp diode forward current	$I_F$		-500	mA
Clamp diode reverse voltage	$V_R$		-0.3 to +50	V
Allowable power dissipation	$P_{d\text{ max}}$		1.13	W
Operating temperature	$T_{opr}$		-20 to +75	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to +150	$^\circ\text{C}$

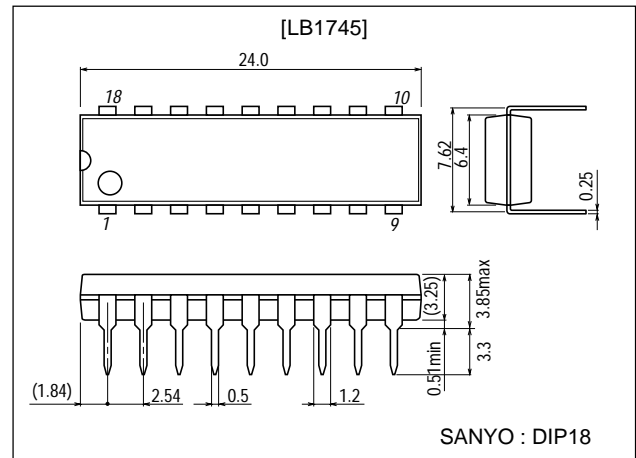
Allowable Operating Ranges at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage range	$V_{CC}$		4 to 50	V
Input ON-level voltage	$V_{ION}$	$I_{OUT} = -350\text{mA}$	0 to $V_{CC} - 2.5$	V
Input OFF-level voltage	$V_{IOFF}$	$I_{OUT} \geq -50\mu\text{A}$	$V_{DD} - 0.7$ to $V_{CC}$	V

### Package Dimensions

unit:mm

3007B-DIP18



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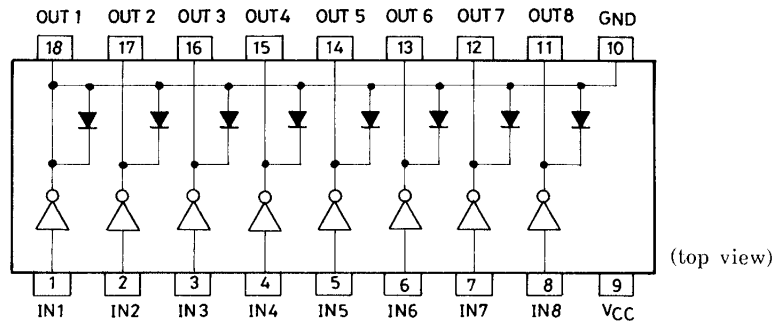
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

# LB1745

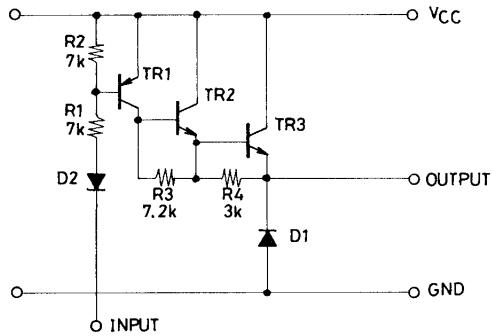
## Electrical Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC} = 5.0\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Power supply current	$I_{CCH}$	All inputs with $V_{IN} = V_{CC} - 3.6\text{V}$		3.8	6	mA
	$I_{CCL}$	All inputs open			100	$\mu\text{A}$
Output voltage	$V_{OH1}$	$V_{IN} = V_{CC} - 2.5\text{V}$ , $I_{OUT} = -100\text{mA}$	$V_{CC} - 2.0$	$V_{CC} - 1.45$		V
	$V_{OH2}$	$V_{IN} = V_{CC} - 2.5\text{V}$ , $I_{OUT} = -350\text{mA}$	$V_{CC} - 2.4$	$V_{CC} - 1.6$		V
Input current	$I_{IN1}$	$V_{IN} = V_{CC} - 3.6\text{V}$	-0.5	-0.31		mA
	$I_{IN2}$	$V_{IN} = V_{CC} - 15\text{V}$	-3.0	-1.9		mA
Clamp diode forward voltage	$V_F$	$I_F = -350\text{mA}$	-2.4	-1.2		V
Clamp diode reverse voltage	$V_R$	$I_R = 100\mu\text{A}$	50			

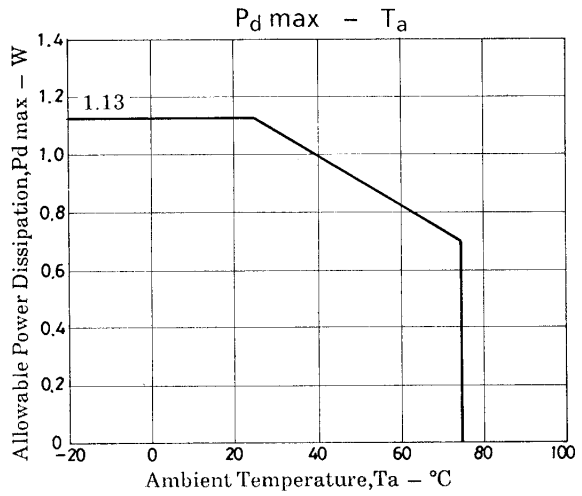
## Pin Assignment



## Equivalent Circuit (For 1 channel)



Unit (resistance:  $\Omega$ )



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