

**LB1740**

## 8-Channel, Current-Source Output, Darlington Transistor Array

### Overview

The LB1740 is an 8-channel current source output Darlington transistor array made up of PNP transistors and NPN transistors. High output drive capability for very low input current is achieved.

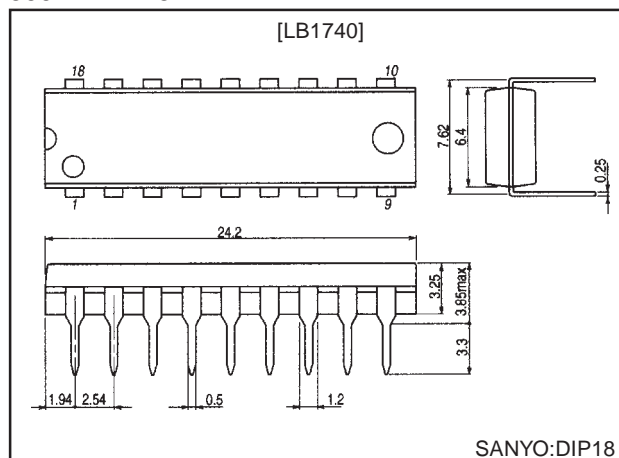
### Features

- Eight independent Darlington driver circuits.
- High breakdown voltage (50V), high current source output (500mA).
- With output clamp diodes.

### Package Dimensions

unit:mm

#### 3007A-DIP18



### Specifications

#### Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CCmax}$		-0.3 to +50	V
Output supply voltage	$V_{OUT}$		-0.3 to $V_{CC}$	V
Input supply voltage	$V_{IN}$		-0.3 to +30	V
Maximum output current	$I_{OUT}$	Per channel	-500	mA
Clamp diode forward current	$I_F$		-500	mA
Clamp diode reverse voltage	$V_R$		-0.3 to +50	V
Allowable power dissipation	$P_d max$		1.13	W
Operating temperature	$T_{opr}$		-20 to +75	°C
Storage temperature	$T_{stg}$		-40 to +150	°C

#### Allowable Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	$V_{CC}$		4 to 50	V
Inout ON-level voltage	$V_{ION}$	$I_{OUT} = -350mA$	1.8 to 30	V
Inout OFF-level voltage	$V_{IOFF}$	$I_{OUT} \geq -50\mu A$	-0.3 to +0.3	V

#### Electrical Characteristics at Ta = 25°C, $V_{CC} = 50V$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Supply current	$I_{CCH}$	All inputs: $V_{IN} = 5V$		5.6	10	mA
	$I_{CCL}$	All inputs: Open			100	$\mu A$
Output voltage	$V_{OH1}$	$V_{IN} = 1.8V, I_{OUT} = -100mA$	$V_{CC} - 2.0$	$V_{CC} - 1.45$		V
	$V_{OH2}$	$V_{IN} = 1.8V, I_{OUT} = -350mA$	$V_{CC} - 2.4$	$V_{CC} - 1.6$		V
Input current	$V_{IN1}$	$V_{IN} = 5V$		0.4	0.75	mA
	$V_{IN2}$	$V_{IN} = 25V$		2.6	4.7	mA
Clamp diode forward voltage	$V_F$	$I_F = -350mA$	-2.4	-1.2		V
Clamp diode reverse voltage	$V_R$	$I_R = 100\mu A$	50			V
Retard propagation delay time	$t_{ph1}$		20			ns

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Ta=25°C, V<sub>CC</sub>=12V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Switching delay time	t <sub>d</sub>	Reference circuit, See Figure1		7.3		μA

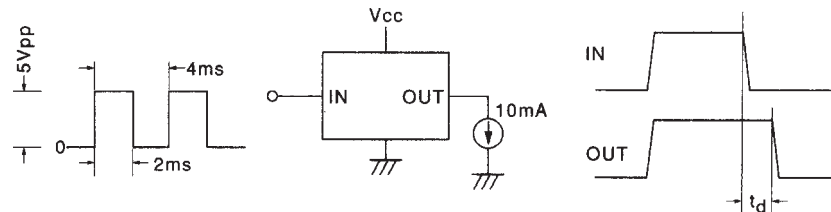
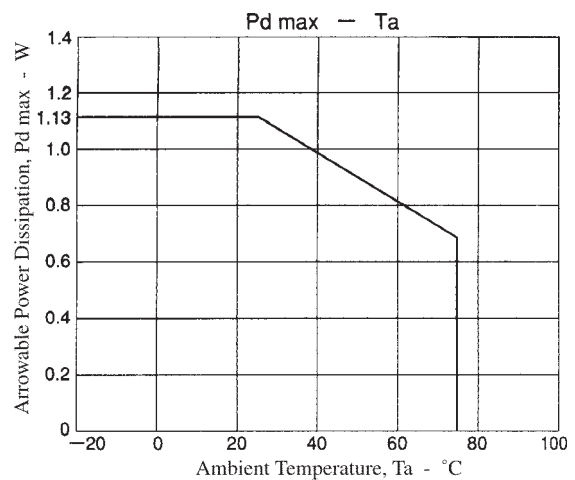
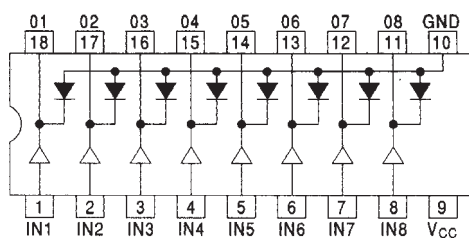
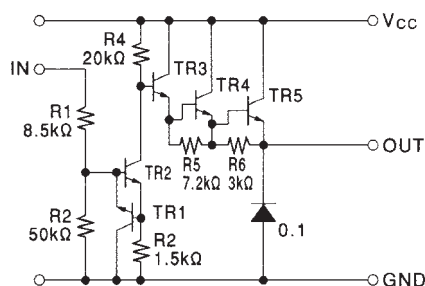


Figure 1

## Pin Assignment



## Equivalent Circuit (1 channel)



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