



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.

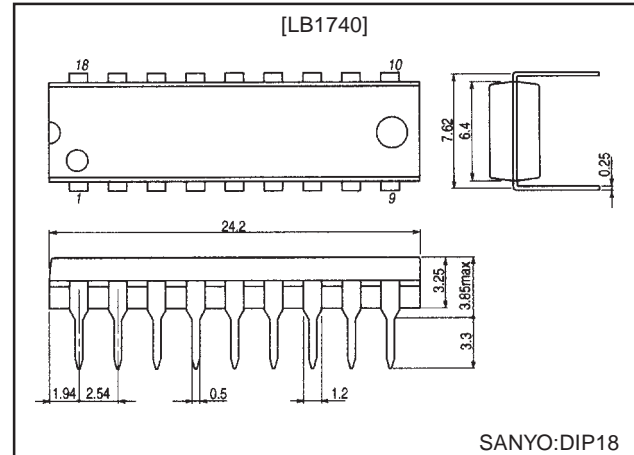
Features

- 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	μA
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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LB1740

Ta=25°C, VCC=12V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Switching delay time	t _d	Reference circuit, See Figure 1		7.3		μA

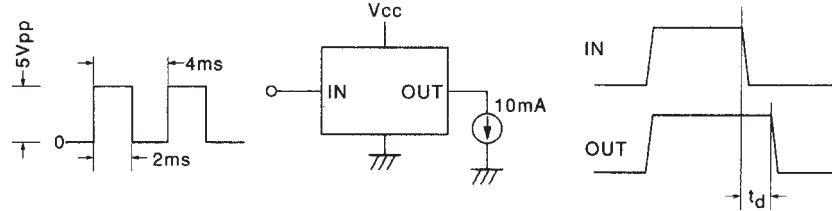
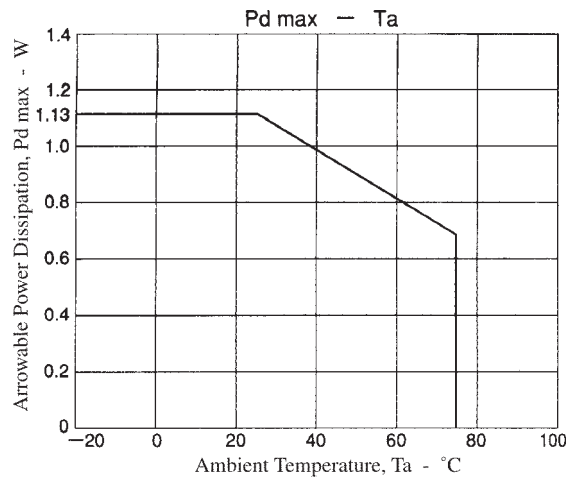
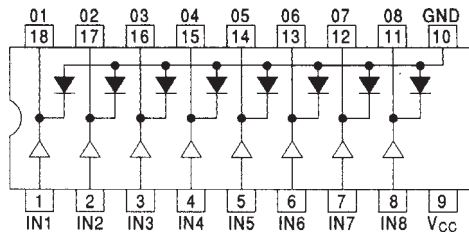
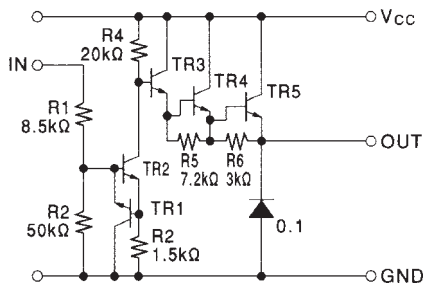


Figure 1

Pin Assignment



Equivalent Circuit (1 channel)



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