Ordering number:EN3173B

Monolithic Digital IC

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 transisitors.High output drive capability for very low input current is achieved.

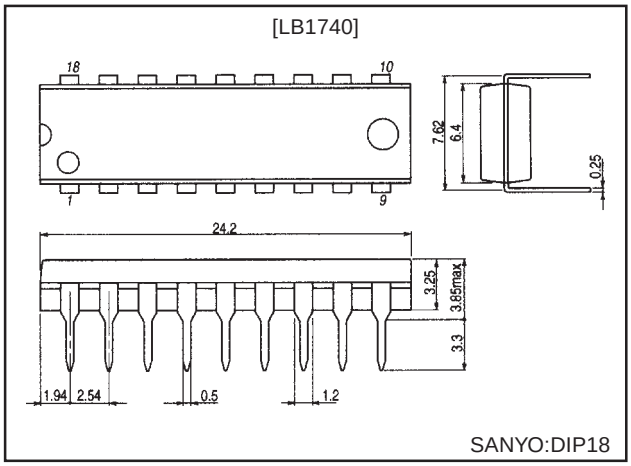
Features

- 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_{CC}max		–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
Muximum 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	Pd max		1.13	W
Operating temperature	Topr		–20 to +75	˚C
Storage temperatrure	Tstg		–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} ≥–50µA	–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	$I_{CC}H$	All inputs:V_{IN}=5V		5.6	10	mA
	$I_{CC}L$	All inputs:Open			100	µA
Output voltage	$V_{OH}1$	V_{IN}=1.8V, I_{OUT}=–100mA	V_{CC}–2.0	V_{CC}–1.45		V
	$V_{OH}2$	V_{IN}=1.8V, IOUT=–350mA	V_{CC}–2.4	V_{CC}–1.6		V
Input current	$V_{IN}1$	V_{IN}=5V		0.4	0.75	mA
	$V_{IN}2$	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=100µA	50			V
Reted propagation delay time	$t_{ph}1$		20			ns

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Ta=25°C, V_{CC}=12V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Switching delay time	t_d	Reference circuit, See Figure1		7.3		µA

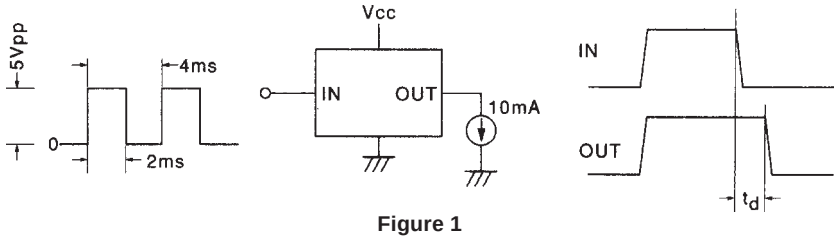
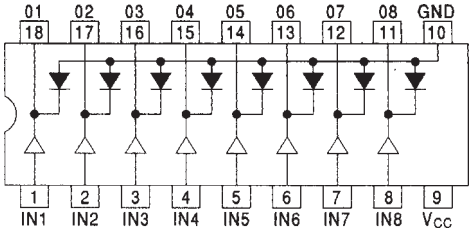
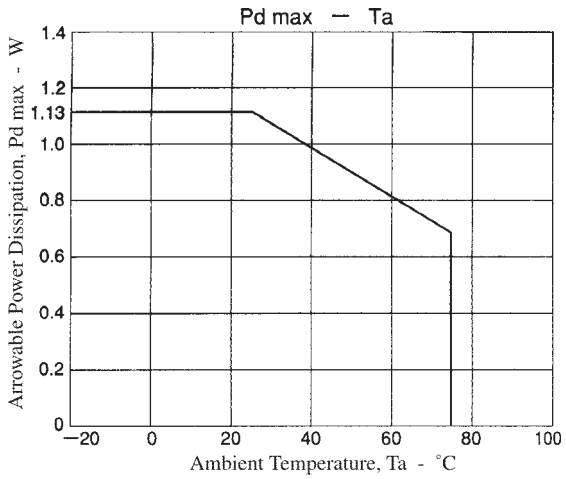


Figure 1

Pin Assignment





Equivalent Circuit (1 channel)