



LB1275

7-Unit, Darlington Transistor Array

Overview

This LB1275, 7-unit Darlington transistor array using NPN transistors, is specially designed for printer driver, lamp or relay driver.

Protector diodes against negative input are used by which it is easy to design drive circuits of a calculator with a printer using indicator or a cash register.

Features

- 7-unit version (DIP-16) or LB1274 (6-unit DIP-14).
- Protector diodes against negative input ($V_{IN} = -40$ to $+20V$).
- Spark killer diodes for inductive load.
- Suitable for 85mA type printer mechanism ($I_{OUT\ max} = 100mA$ DC).

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$, voltage at pin8=0V

Parameter	Symbol	Conditions	Ratings	Unit
Output supply voltage	V_{OUT}		-0.3 to +22	V
Input supply voltage	V_{IN}		-40 to +20	V
Pin 8 supply voltage	V_{8p}		-0.3 to +20	V
Output flow-in current	I_{OUT}	per unit	0 to 100	mA
Instantaneous output flow-in current	I_{OP}	per unit, duty=10%, pulse width<20ms	0 to 150	mA
Forward current of spark killer diode	$I_{F(s)}$	per diode, duty=10%, pulse width<20ms	150 to 0	mA
Flow-out current at GND pin	I_g		-900 to 0	mA
Instantaneous flow-out current at pin 8	I_{8p}	duty=10%, pulse width<20ms	-500 to 0	mA
Instantaneous flow-out current at pin 9	I_{9p}	duty=10%, pulse width<20ms	-900 to 0	mA
Allowable power dissipation	$P_{d\ max}$		900	mW
Operating temperature	T_{opr}		-20 to +80	$^\circ C$
Storage temperature	T_{stg}		-40 to +125	$^\circ C$

Allowable Operating Ranges at $T_a = 25^\circ C$, voltage at pin8=0V

Parameter	Symbol	Conditions	Ratings	Unit
Output supply voltage	V_{OUT}		22V	min.
Input high-level voltage	V_{IH}	output pin current=100mA	9 to 20	V
Input low-level voltage	V_{IL}	output pin current=100 μA	-35 to +1	V
Load inductance	L_L	with protector diode	100mH	min.

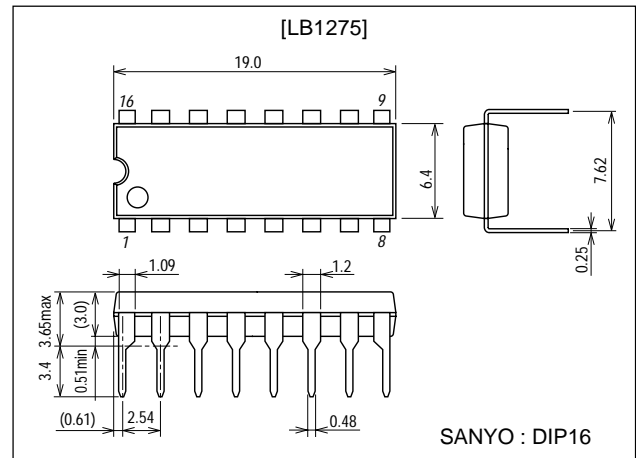
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Package Dimensions

unit:mm

3006C-DIP16



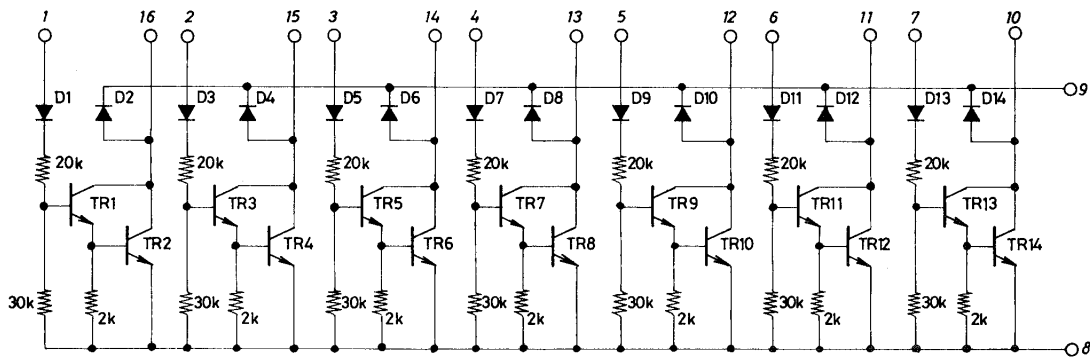
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LB1275

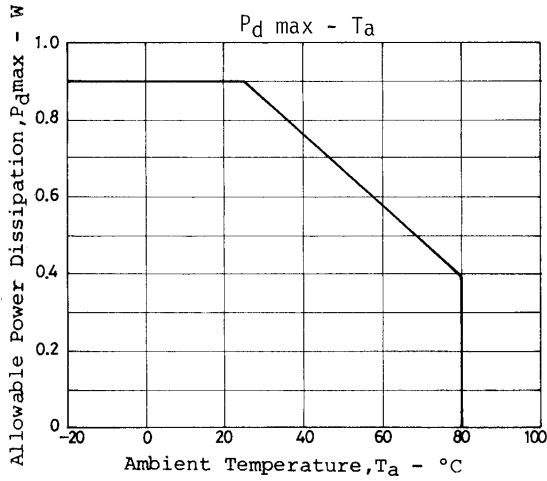
Electrical Characteristics at $T_a = 25^\circ\text{C}$, voltage at pin8=0V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT1}	$V_{IN}=9.0\text{V}, I_{OUT}=150\text{mA}$			1.7	V
	V_{OUT2}	$V_{IN}=9.0\text{V}, I_{OUT}=100\text{mA}$			1.4	V
Output sustain voltage	$V_{OUT(s)}$	$V_{IN}=\text{open}, \text{applied time} < 10\mu\text{s}, I_{OUT}=150\text{mA}$	22			V
Output leak current	I_{off}	$V_{IN}=1.0\text{V}, V_{OUT}=22\text{V}$			100	μA
Input current	I_{IN1}	$V_{IN}=18\text{V}$			1.8	mA
	I_{IN2}	$V_{IN}=9\text{V}$			0.8	mA
Output current	I_{OUT}	$I_{IN}=0.3\text{mA}, V_{OUT}=1.4\text{V}$	100			mA
Input leak current	I_{leak}	$V_{IN}=-35\text{V}$	-10			μA
Leak current at spark killer diode	$I_{leak(s)}$	$V_{OUT}=0\text{V}, \text{pin}8=20\text{V}$			30	μA
Forward voltage at spark killer diode	$V_{F(s)}$	$I_{F(s)}=150\text{mA}$			1.7	V

Equivalent Circuit



Unit (resistance: Ω)



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