Ordering number:ENN993C

Monolithic Digital IC

LB1257

8-Unit, Low-Saturation Driver

Applications

- 4-phase stepping motor driver of 2 channels.
- Especially suited for X-Y plotter driver (Meeting the requirements for Alps DPG plotter).
- General-purpose 8-unit large current & low saturation voltage driver (Relay, LED, lamp, solenoid, etc.).

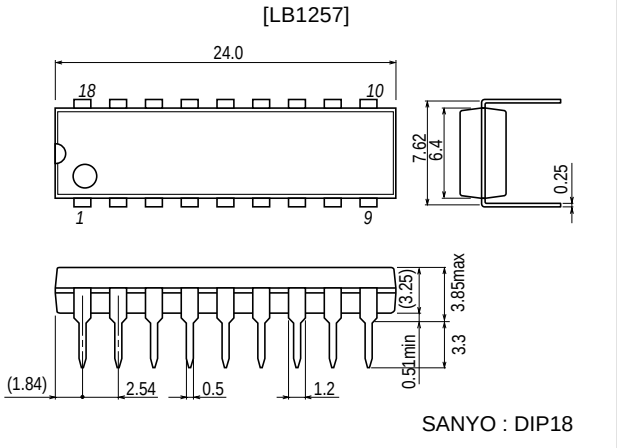
Features

- Large current capacity (400mA) and ow saturation voltage (0.5V max),
- With spark killer diode provided.

Package Dimensions

unit:mm

3007B-DIP18



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		–0.3 to +7.0	V
Output supply voltage	V_{OUT}		–0.3 to +10.0	V
Input supply voltage	V_{IN}		–0.3 to +7.0	V
Maximum output current	I_{OUT}	Per unit	400	mA
Maximum forward current	I_{FSM}	Spark killer diode, pulse width≤35ms, duty 5%	400	mA
GND pin flow-out current	I_{GND}	Pulse width<35ms	3000	mA
Instantaneous current drain	I_{CCP}	Pulse width<35ms, duty 5%	3000	mA
Allowable power dissipation	Pd max		1.13	W
Operating temperature	Topr		–20 to +75	˚C
Storage temperature	Tstg		–40 to +125	˚C

Allowable Operating Ranges at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		2.3 to 6.0	V
Input H-level voltage	V_{IH}	I_{OUT}=200mA	2.3 to 7.0	V
Input L-level voltage	V_{IL}	I_{OUT}≤100µA	–0.3 to +0.7	V

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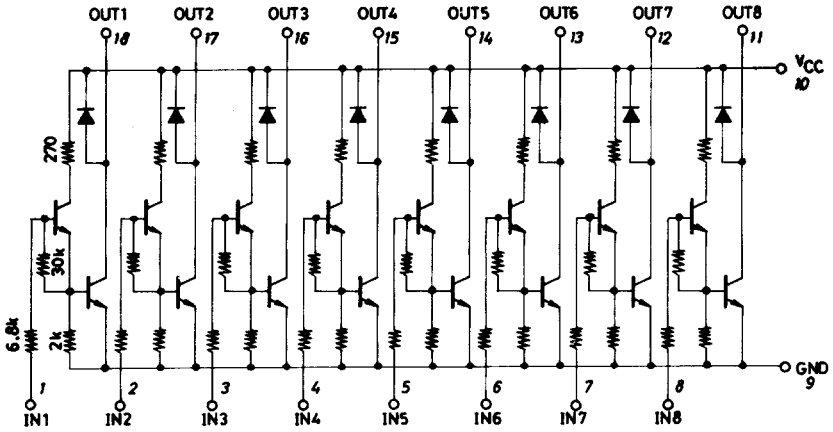
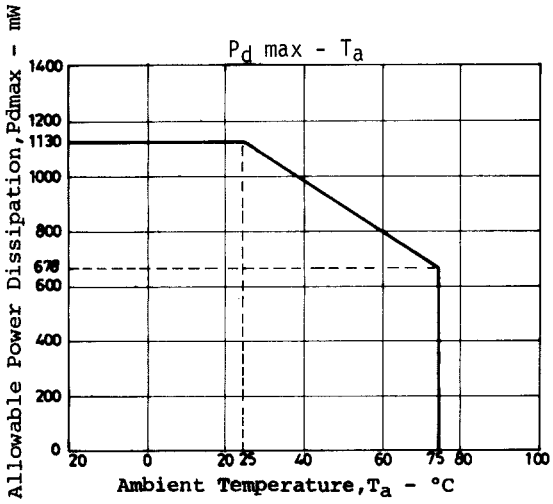
Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT1}	V_{IN}=V_{CC}=2.3V, I_{OUT}=200mA			0.4	V
	V_{OUT2}	V_{IN}=3.0V, V_{CC}=3.5V, I_{OUT}=200mA			0.25	V
	V_{OUT3}	V_{IN}=5.5V, V_{CC}=6.0V, I_{OUT}=400mA			0.5	V
Output sustain voltage	$V_{O(sus)}$	V_{IN} : open, I_{OUT}=400mA, t≤10μs	10			V
Output leakage current	I_{off}	V_{IN}=0.7V, V_{CC}=6.0V, V_{OUT}=6.0V			100	μA
Input current	I_{IN}	V_{IN}=6.0V, I_{OUT}=0			1.0	mA
Spark killer diode reverse current	$I_{leak(s)}$	V_{OUT}=0V, V_{CC}=6.0V			30	μA
Spark killer diode forward voltage	$V_{F(s)}$	$I_{F(s)}$=400mA			3.0	V

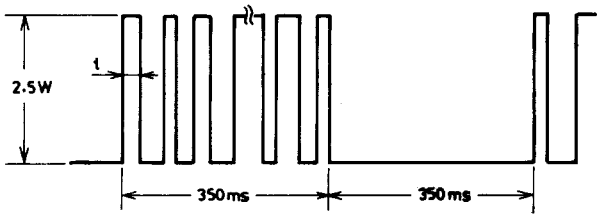
Equivalent Circuit



Unit (resistance: Ω)



The loss of the following waveform is allowed at Ta=60°C



t≤35ms and 40% duty of 350ms (Pd=0.5W)