



# LB1268

## 3-Channel, High-Current, Low-Saturation Driver Array

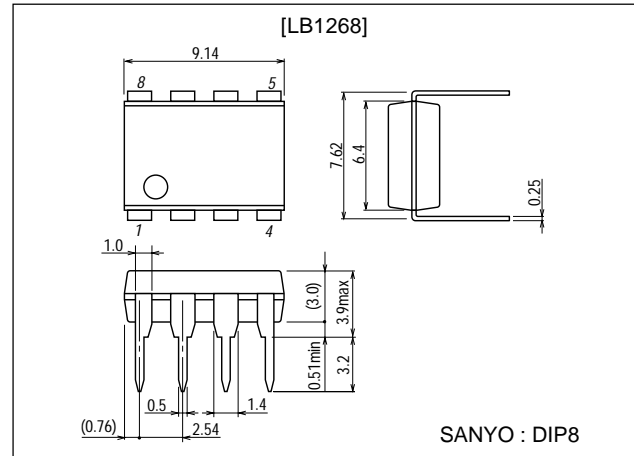
### Features and Functions

- 3-channel magnet driver.
- High current (2.0A max.) and low saturation voltage (1.5V).
- Parallel operation capability (channel 1+2)
- On-chip spark killer diodes.

### Package Dimensions

unit:mm

3001C-DIP8



### Specifications

Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$		8.0	V
Output supply voltage	$V_{OUT}$		10.0	V
Input supply voltage	$V_{IN}$		12.0	V
Output current	$I_{OUT1}$	$t_{on} \leq 50\text{ms}$ , duty=20%, solenoid drive stage (ch1, 2)	1.0	A
	$I_{OUT2}$	$t_{on} \leq 50\text{ms}$ , duty=5%, motor drive stage (ch3)	2.5	A
Spark killer diode forward current	$I_{FSM1}$	$t \leq 5\text{ms}$ , duty=5%, solenoid drive stage (ch1, 2)	1.0	A
	$I_{FSM2}$	$t \leq 5\text{ms}$ , duty=5%, motor drive stage (ch3)	2.5	A
$V_{CC}$ instantaneous flow-out current	$I_{CCP}$	$t \leq 5\text{ms}$ , duty=5%	3.0	A
GND pin flow-out current	$I_{GND}$	$t \leq 5\text{ms}$ , duty=20%	3.0	A
Allowable power dissipation	$P_d\ max$		785	mW
Operating temperature	$T_{opr}$		-20 to +75	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-40 to +125	$^\circ\text{C}$

Allowable Operating Ranges at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	$V_{CC}$		3.0 to 7.0	V
Input H-level voltage	$V_{IH}$	$I_{OUT} = 300\text{mA}$	3.0 to 11.0	V
Input L-level voltage	$V_{IL}$	$I_{OUT} \leq 100\mu\text{A}$	-0.3 to +0.7	V

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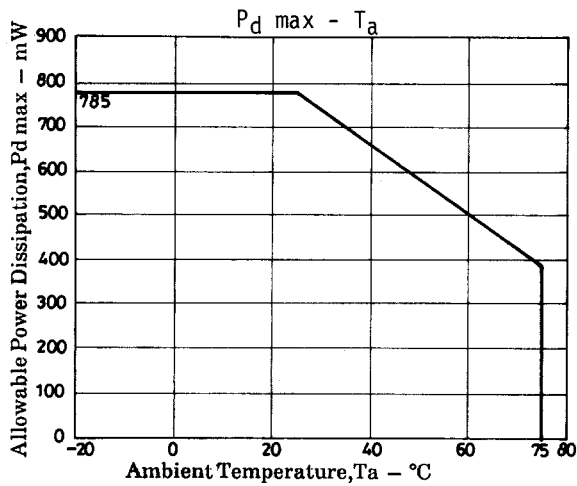
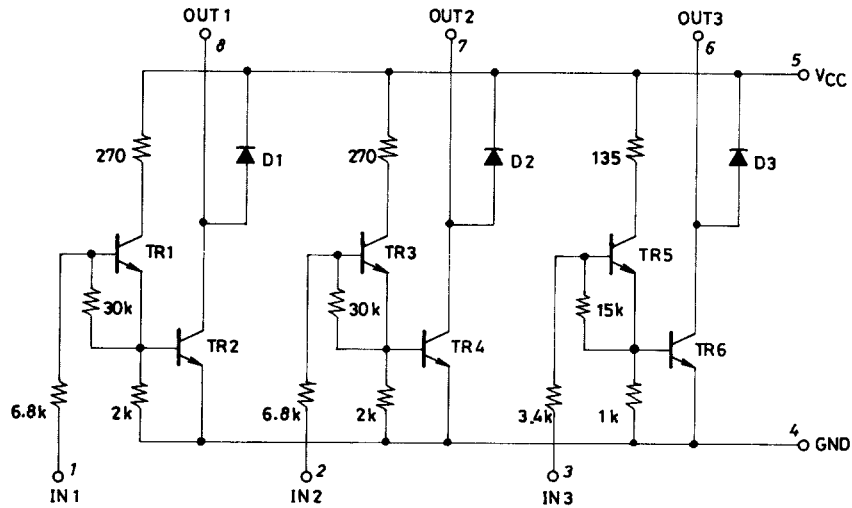
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## Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	$V_{OH1}$	$V_{IN}=4.5\text{V}, V_{CC}=5.0\text{V}, I_{OUT}=500\text{mA}$ (ch1, 2)			0.65	V
	$V_{OH2}$	$V_{IN}=6.0\text{V}, V_{CC}=7.0\text{V}, I_{OUT}=1000\text{mA}$ (ch1, 2)			1.4	V
	$V_{OH3}$	$V_{IN}=6.0\text{V}, V_{CC}=7.0\text{V}, I_{OUT}=1600\text{mA}$ (ch1, 2 parallel)			1.4	V
	$V_{OH4}$	$V_{IN}=3.0\text{V}, V_{CC}=3.0\text{V}, I_{OUT}=300\text{mA}$ (ch3)			0.25	V
	$V_{OH5}$	$V_{IN}=4.5\text{V}, V_{CC}=5.0\text{V}, I_{OUT}=1000\text{mA}$ (ch3)		0.5	0.7	V
	$V_{OH6}$	$V_{IN}=6.0\text{V}, V_{CC}=7.0\text{V}, I_{OUT}=2000\text{mA}$ (ch3)		1.0	1.5	V
Input current	$I_{IN1}$	$V_{IN}=6.0\text{V}$ (ch1, 2)			1.0	mA
	$I_{IN2}$	$V_{IN}=6.0\text{V}$ (ch3)			2.0	mA
Power source+output leakage current	$I_{(OFF)}$	$V_{IN}=0.5\text{V}, V_{OUT}=V_{CC}=6.0\text{V}$			30	$\mu\text{A}$
Spark killer diode forward voltage	$V_{F1}$	$I_F=1000\text{mA}$ (ch1, 2)			3.0	V
	$V_{F2}$	$I_F=2000\text{mA}$ (ch3)			3.0	V
Output sustain voltage	$V_{O(SUS)}$	$I_{OUT}=400\text{mA}$	10			V

## Equivalent Circuit



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