

# LED driver

## BA618

The BA618 is an IC developed for driving 7-segment LED displays, and contains seven positive logic circuits. Input and output are directed in the same direction by DIP Pin 16, with the layout optimized to facilitate mounting.

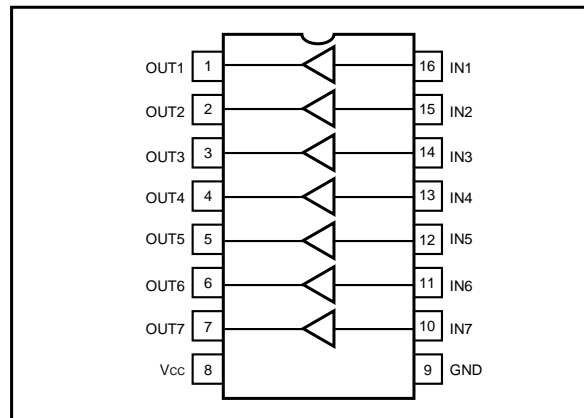
### ●Applications

LED drivers  
Relay drivers

### ●Features

- 1) Contains seven circuits.
- 2) Current of up to 100mA can be driven.
- 3) Input and output are directed in the same direction, for easy mounting.
- 4) Can be directly coupled with TTL.

### ●Block diagram



● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	V <sub>CC</sub>	16	V
Power dissipation	P <sub>d</sub>	500*	mW
Operating temperature	T <sub>opr</sub>	-30 ~ +75	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +125	°C
Maximum drive current	I <sub>OUT</sub>	100	mA
Allowable input voltage	V <sub>IN</sub>	-0.5 ~ +16	V

\* Reduced by 5mW for each increase in Ta of 1°C over 25°C.

● Internal circuit configuration

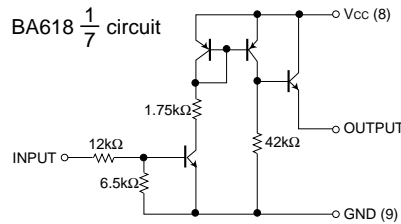


Fig. 1

● Electrical characteristics (unless otherwise noted, Ta = 25°C, V<sub>CC</sub> = 10V, R<sub>L</sub> = 100Ω, C<sub>L</sub> = 20pF)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output low level supply current	I <sub>CC (OFF)</sub>	—	—	500	μA	V <sub>IN</sub> = 0V
Output high level input current	I <sub>IN (ON)</sub>	—	0.4	0.8	mA	V <sub>IN</sub> = 5V, V <sub>OUT</sub> ≧ 8.5V
Output high level input voltage	V <sub>IN (ON)</sub>	—	1.9	2.5	V	V <sub>OUT</sub> ≧ 8.5V (R <sub>L</sub> = 200Ω)
Output low level voltage	V <sub>IN (OFF)</sub>	0.8	1.5	—	V	V <sub>OUT</sub> ≧ 3mV
Output high level voltage	V <sub>OUT (IN)</sub>	8.5	8.9	—	V	V <sub>IN</sub> = 2.5V
Output low level leakage current	I <sub>OL (OFF)</sub>	—	—	30	μA	V <sub>IN</sub> = 0.8V
Output high level input voltage II	V <sub>IN II (ON)</sub>	—	1.9	3	V	V <sub>OUT</sub> ≧ 8.5V

● Electrical characteristic curves

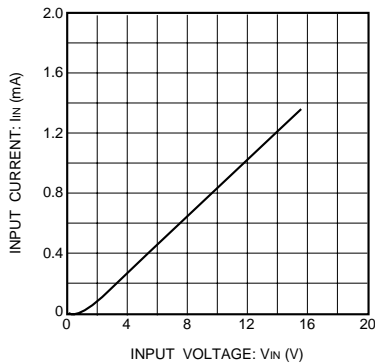


Fig. 2 Input characteristics

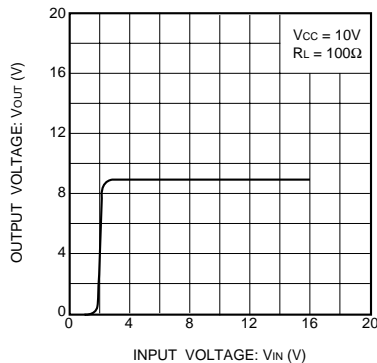


Fig. 3 Input / output characteristics

● Measurement circuit

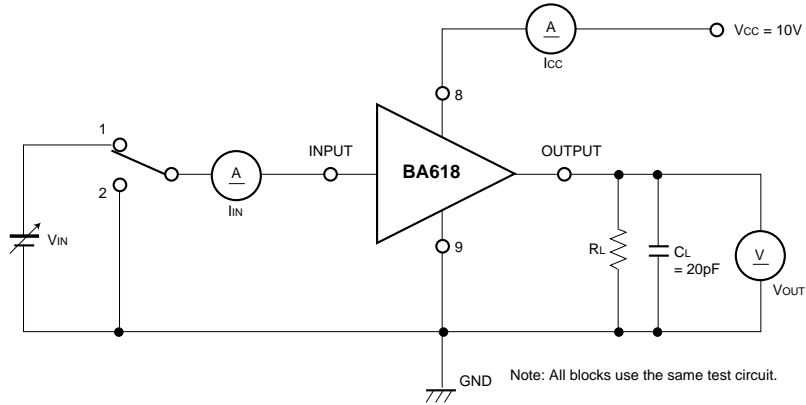


Fig. 4

● Application example

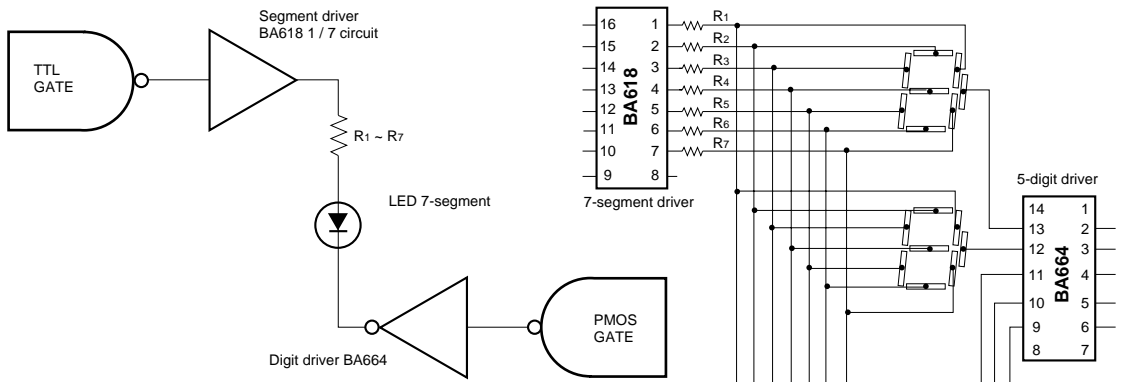


Fig. 5 7-segment, 5-digit LED driver circuit

● External dimensions (Units: mm)

