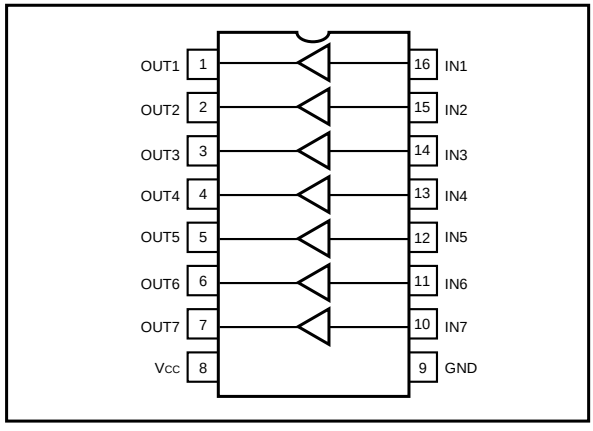
LED driver
BA618

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_{CC}	16	V
Power dissipation	Pd	500*	mW
Operating temperature	Topr	– 30 ~ + 75	°C
Storage temperature	Tstg	– 55 ~ + 125	°C
Maximum drive current	I_{OUT}	100	mA
Allowable input voltage	V_{IN}	– 0.5 ~ + 16	V

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

●Internal circuit configuration

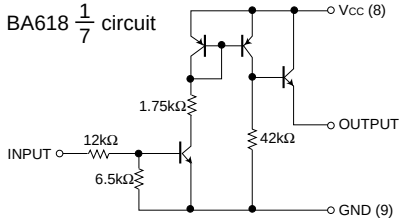


Fig. 1

●Electrical characteristics (unless otherwise noted, Ta = 25°C, V_{CC} = 10V, R_L = 100Ω, C_L = 20pF)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output low level supply current	$I_{CC\ (OFF)}$	—	—	500	μA	V_{IN} = 0V
Output high level input current	$I_{IN\ (ON)}$	—	0.4	0.8	mA	V_{IN} = 5V, $V_{OUT} \geqq$ 8.5V
Output high level input voltage	$V_{IN\ (ON)}$	—	1.9	2.5	V	$V_{OUT} \geqq$ 8.5V (R_L = 200Ω)
Output low level voltage	$V_{IN\ (OFF)}$	0.8	1.5	—	V	$V_{OUT} \leqq$ 3mV
Output high level voltage	$V_{OUT\ (IN)}$	8.5	8.9	—	V	V_{IN} = 2.5V
Output low level leakage current	$I_{OL\ (OFF)}$	—	—	30	μA	V_{IN} = 0.8V
Output high level input voltage Ⅱ	$V_{IN\ Ⅱ\ (ON)}$	—	1.9	3	V	$V_{OUT} \geqq$ 8.5V

●Electrical characteristic curves

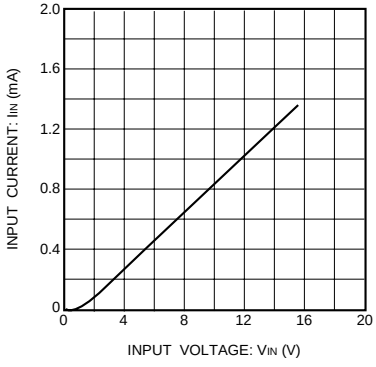


Fig. 2 Input characteristics

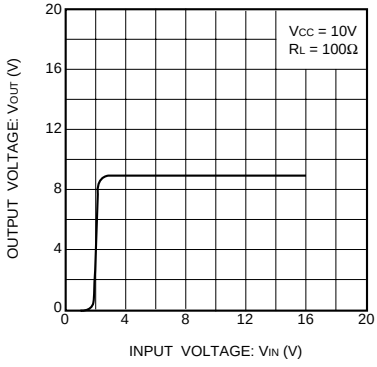


Fig. 3 Input / output characteristics

●Measurement circuit

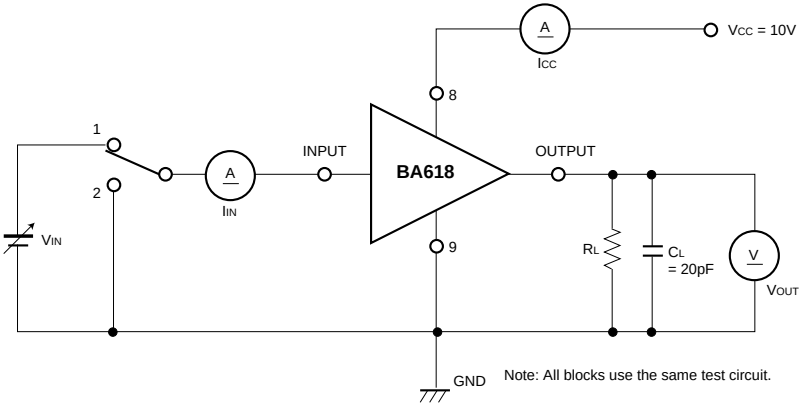


Fig. 4

●Application example

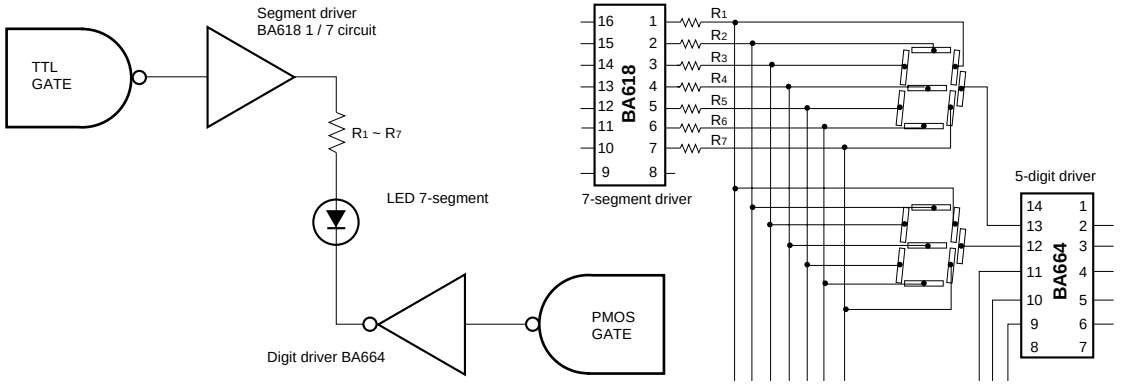
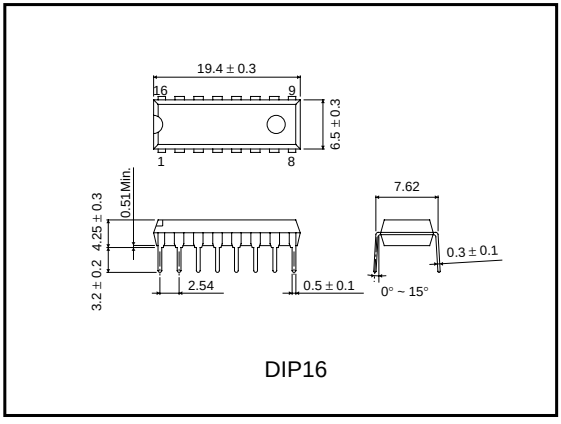


Fig. 5 7-segment, 5-digit LED driver circuit

●External dimensions (Units: mm)



DIP16