

# 7-channel high current driver BA6257

The BA6257 is a printer hammer solenoid driver for electronic calculators. It consists of seven circuits and is provided with a high input impedance in order to enable direct drive from MOS ICs. It features a built-in clamp diode and 16-pin DIP for easy installation.

## ● Applications

Hammer solenoid drivers

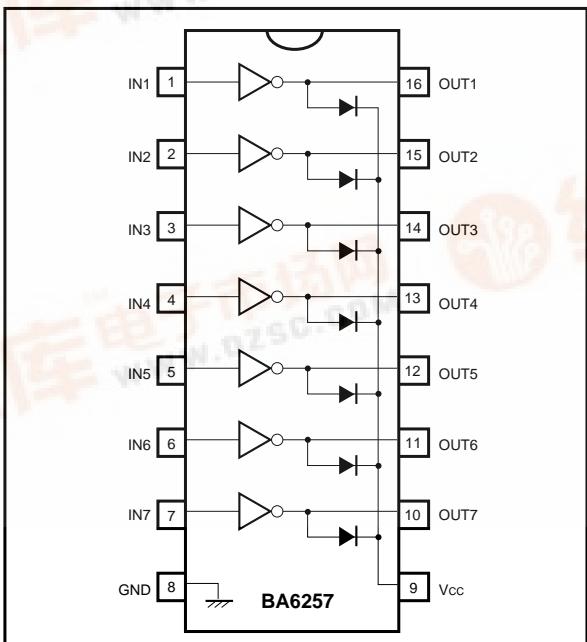
Relay drivers

LED drivers

## ● Features

- 1) 7-channel Darlington transistor array.
- 2) High current driver capability of 100mA.
- 3) Can be directly connected to MOS IC devices.
- 4) High withstand voltage of 38V for input and 24V for output.
- 5) Built-in clamp diode for driving inductive loads.

## ● Block diagram



● Internal circuit configuration

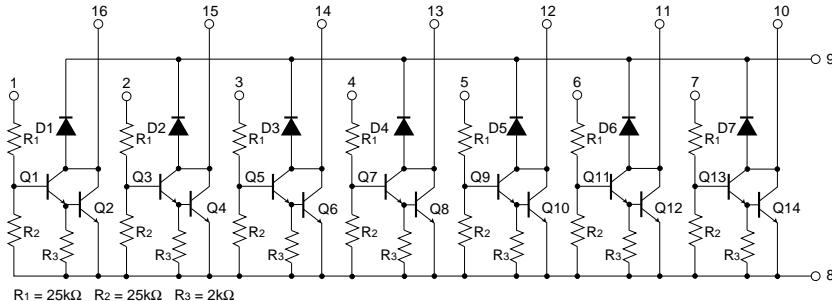


Fig.1

● Absolute maximum ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Limits	Unit
Power supply voltage	$V_{CC}$	24	V
Power dissipation	$P_d$	500*	mW
Operating temperature	$T_{OPR}$	$-25 \sim +75$	$^\circ\text{C}$
Storage temperature	$T_{STG}$	$-55 \sim +125$	$^\circ\text{C}$
Collector current	$I_C$	100	mA
Input voltage	$V_{IN}$	$-0.5 \sim +38$	V

\* Reduced by 5mW for each increase in  $T_a$  of  $1^\circ\text{C}$  over  $25^\circ\text{C}$ .

● Electrical characteristics (unless otherwise noted,  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 20\text{V}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	Measurement circuit
Usage voltage range (output)	$V_{CC}$	—	—	20	V	—	
Output leakage current	$I_L$	—	—	100	$\mu\text{A}$	$V_C = 20\text{V}$ , $V_{IN} = 0\text{V}$	Fig.2
Collector saturation voltage 1	$V_{CE(\text{sat})} 1$	—	1.4	2.2	V	$I_{OUT} = 75\text{mA}$ , $V_{IN} = 17\text{V}$	Fig.3
Collector saturation voltage 2	$V_{CE(\text{sat})} 2$	—	—	2.2	V	$I_{OUT} = 75\text{mA}$ , $V_{IN} = 8\text{V}$	Fig.3
Input current	$I_{IN}$	—	0.6	1.4	mA	$I_{OUT} = 0\text{mA}$ , $V_{IN} = 17\text{V}$	Fig.4
Diode leakage current	$I_R$	—	—	100	$\mu\text{A}$	$V_R = 20\text{V}$	Fig.5
Diode forward voltage	$V_{IN}$	—	1.2	—	V	$I_F = 75\text{mA}$	Fig.6

● Measurement circuits

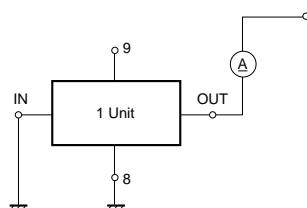


Fig.2

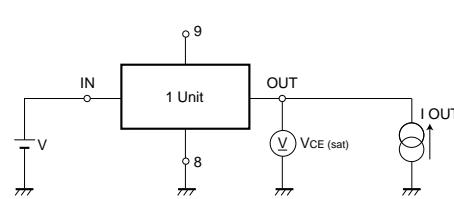


Fig.3

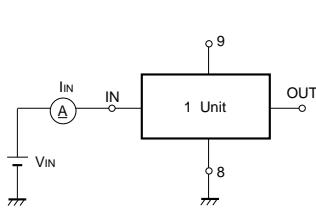


Fig.4

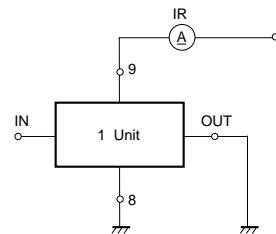


Fig.5

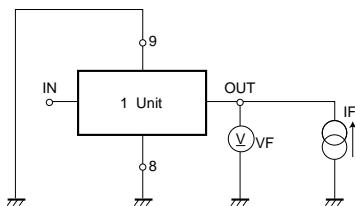


Fig.6

### ● Electrical characteristic curve

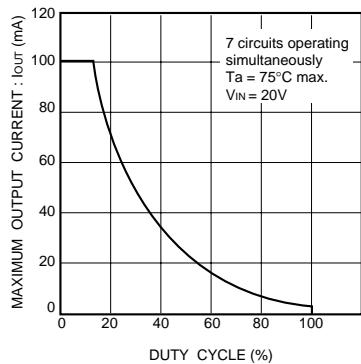
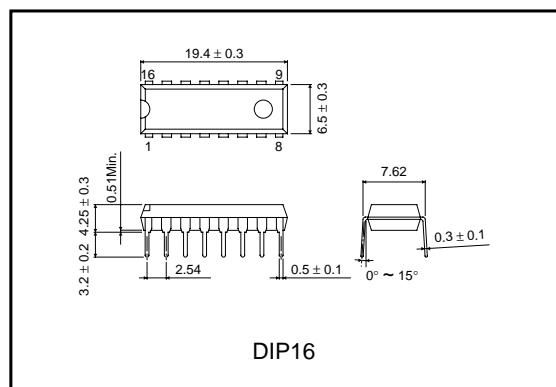


Fig.7 Output current vs. duty cycle

### ● External dimensions (Units: mm)



DIP16