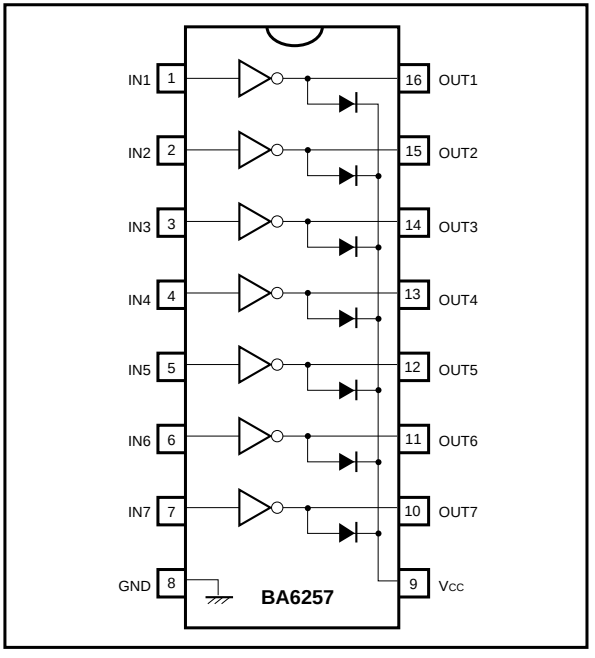
7-channel high current driver
BA6257

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 withstanding voltage of 38V for input and 24V for output.
5) Built-in clamp diode for driving inductive loads.

●Block diagram



●Internal circuit configuration

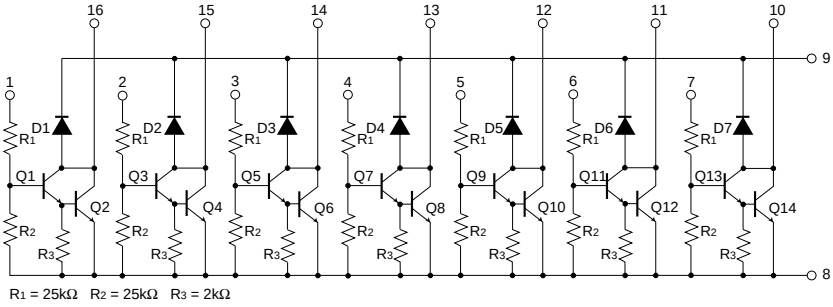


Fig.1

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	V_{CC}	24	V
Power dissipation	Pd	500*	mW
Operating temperature	Topr	– 25 ~ + 75	°C
Storage temperature	Tstg	– 55 ~ + 125	°C
Collector current	I_C	100	mA
Input voltage	V_{IN}	– 0.5 ~ + 38	V

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

●Electrical characteristics (unless otherwise noted, Ta = 25°C, V_{CC} = 20V)

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

●Measurement circuits

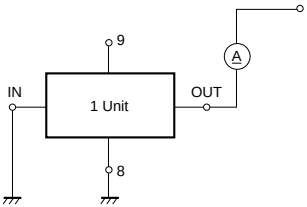


Fig.2

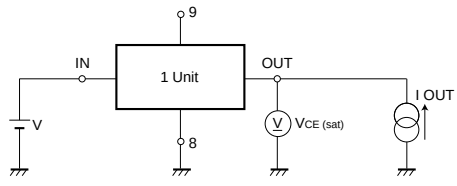


Fig.3

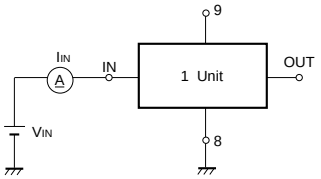


Fig.4

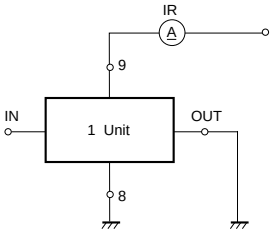


Fig.5

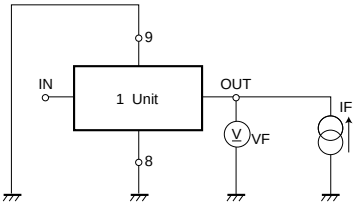


Fig.6

●Electrical characteristic curve

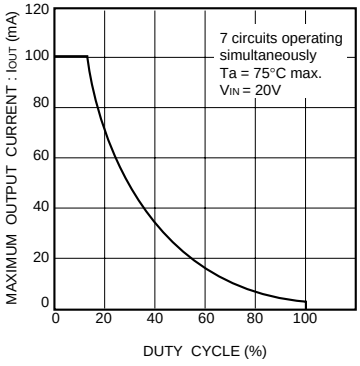
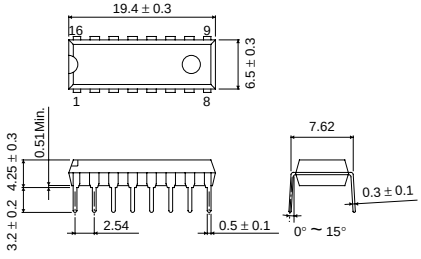


Fig.7 Output current vs. duty cycle

●External dimensions (Units: mm)



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