

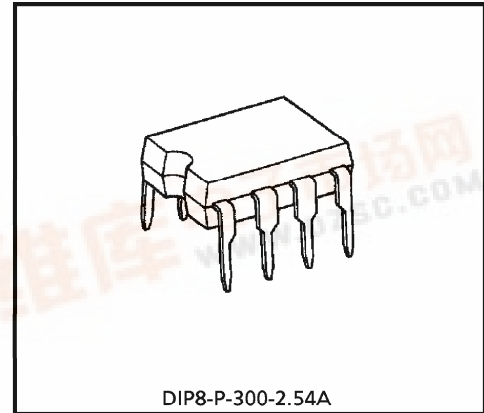
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8026P

FLASHER CONTROLLER

The TA8026P is designed as an automotive flasher controller. It can issue a rapied-flashing warning when a lamp failure occurs.

It operates accurately in wide ranges of supply voltages and operating temperatures. It incorporates an accurate reference voltage circuit which compensates for lamp current characteristic variations due to supply voltage changes.



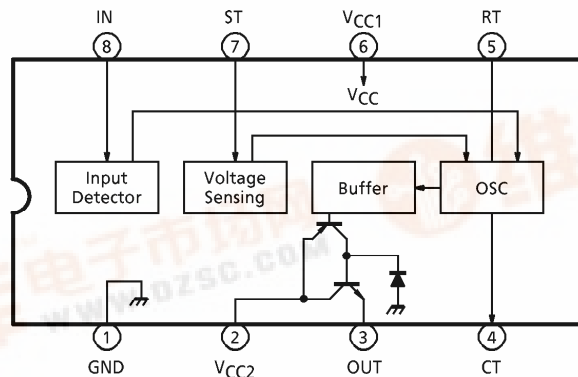
DIP8-P-300-2.54A

Weight : 0.45g (Typ.)

FEATURES

- Large output current : $I_{OUT} = 300\text{mA}$ (Max.)
- Low standby current : $I_{CC} = 1.0\text{mA}$ (Typ.)
- Reference voltage characterized by small temperature drift.
- Built-in circuit that compensates for variations in lamp voltage characteristics.
- Output from combination of PNP and NPN transistors with suppression diode.
- Wide operating temperature : $T_a = -40$ to 110°C
- DIP-8pin.

BLOCK DIAGRAM AND PIN LAYOUT



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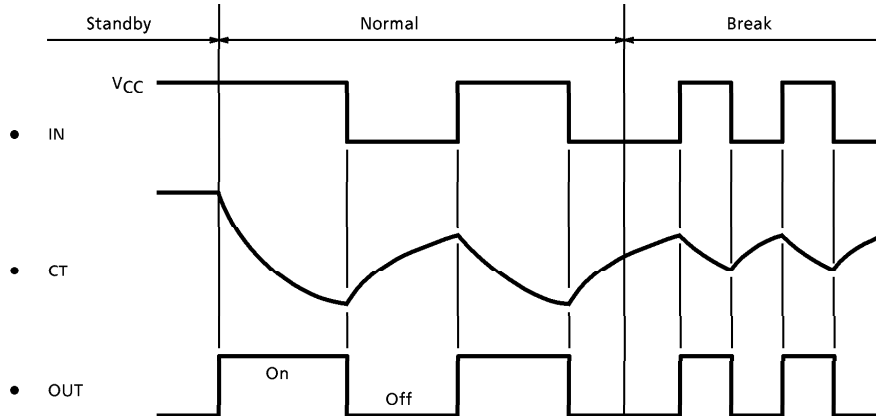
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PIN DESCRIPTION

PIN No.	SYMBOL	DESCRIPTION
1	GND	Grounded.
2	VCC2	Power supply pin (2).
3	OUT	Open-emitter output of complementary combination of PNP and NPN transistors.
4	CT	A capacitor is connected between VCC and CT. This layout determines the flashing interval of the flasher.
5	RT	A resistor is connected between RT and CT. This layout determines the flashing interval of the flasher.
6	VCC1	Power supply pin (1).
7	ST	Current detection pin. The lamp current is detected through a shunt resistor connected between VCC1 and ST.
8	IN	Detection pin for lamp operation.

TIMING CHART



MAXIMUM RATINGS (Ta = 25°C)

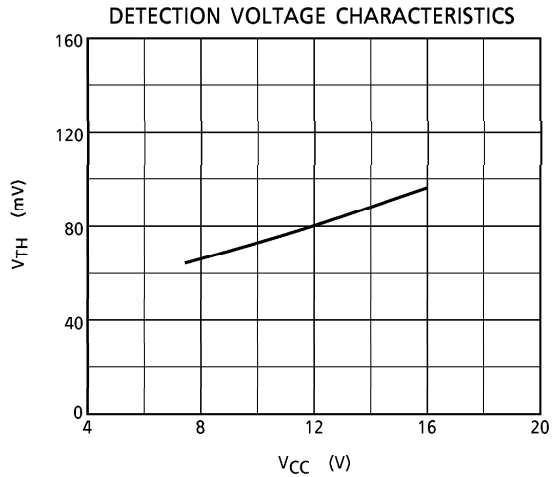
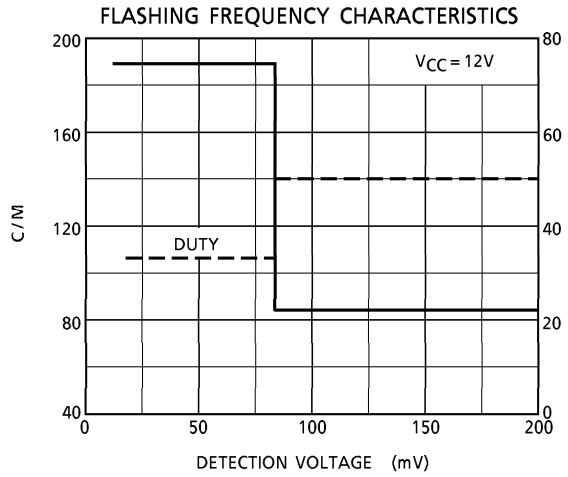
CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V _{CC}	28	V
Power Dissipation	P _D	300 *	mW
Output Current	I _{OUT}	300	mA
Input Voltage	V _{IN}	-0.3~V _{CC}	V
Operating Temperature	T _{opr}	-40~110	°C
Storage Temperature	T _{stg}	-55~150	°C
Lead Temperature-time	T _{sol}	260 (10s)	°C

* Ta ≤ 110°C

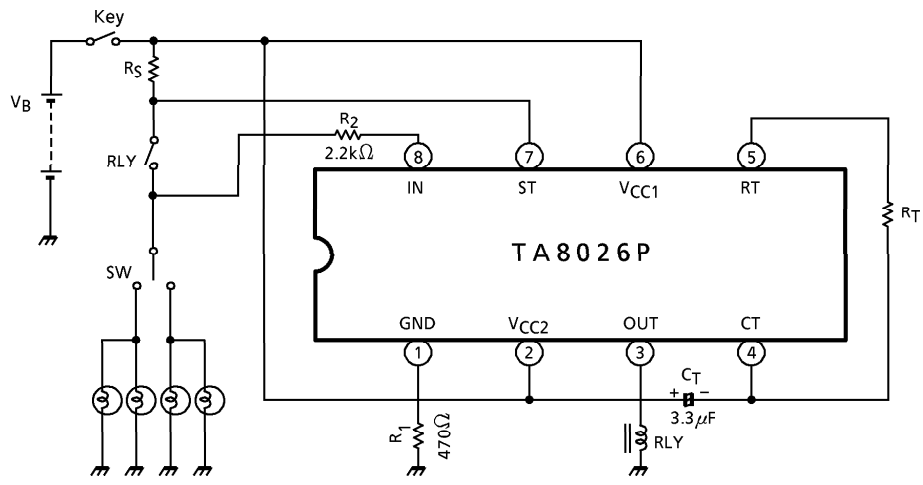
ELECTRICAL CHARACTERISTICS (V_{CC} = 12V, Ta = -40~110°C)

CHARACTERISTIC	SYMBOL	PIN	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V _{opr}	V _{CC}	—	—	6	—	18	V
Power Supply Current	I _{CC}	GND	—	Standby, Ta = 25°C	0.6	0.9	1.4	mA
			—	Output on, Ta = 25°C	2.5	4.0	6.0	
Output Voltage	V _{OH}	OUT	—	R _L = 82Ω	—	—	1.3	V
Leakage Current	I _{LEAK}	OUT	—	V _{OUT} = 0V	-100	—	—	μA
Input Current	I _{IN}	CT	—	V _{IN} = V _{CC} ~ V _{CC} - 5V	-10	—	10	μA
			—	V _{IN} = V _{CC}	-10	—	10	
		IN	—	V _{IN} = 12V	—	—	20	mA
			—	V _{IN} = 0V	-1.5	-2.5	-3.5	
Input Voltage	V _{IL}	IN	—	—	—	—	0.4	× V _{CC}
	V _{IH}		—	—	0.6	—	—	
Detection Voltage	V _{TH}	ST	—	V _{CC} = 9V	63	71	78	mV
			—	V _{CC} = 12V	75	82	89	
			—	V _{CC} = 15V	87	95	103	
	ΔV _{TH} /T	—	—	—	-60	—	60	μV/°C
	ΔV _{TH} /ΔV _{CC}	—	—	—	2.7	3.3	3.9	mV/V
Flashing Interval	—	OUT	—	C _T = 3.3μF, R _T = ADJ *	690	706	723	ms
Flashing Interval (At fail detection)	—	OUT			315	324	333	
On Duty	—	OUT			45	50	55	%
On Duty (At fail detection)	—	OUT			30	—	50	

* Adjust the flashing interval to 706ms by changing R_T while keeping C_T = 3.3μF at room temperature.



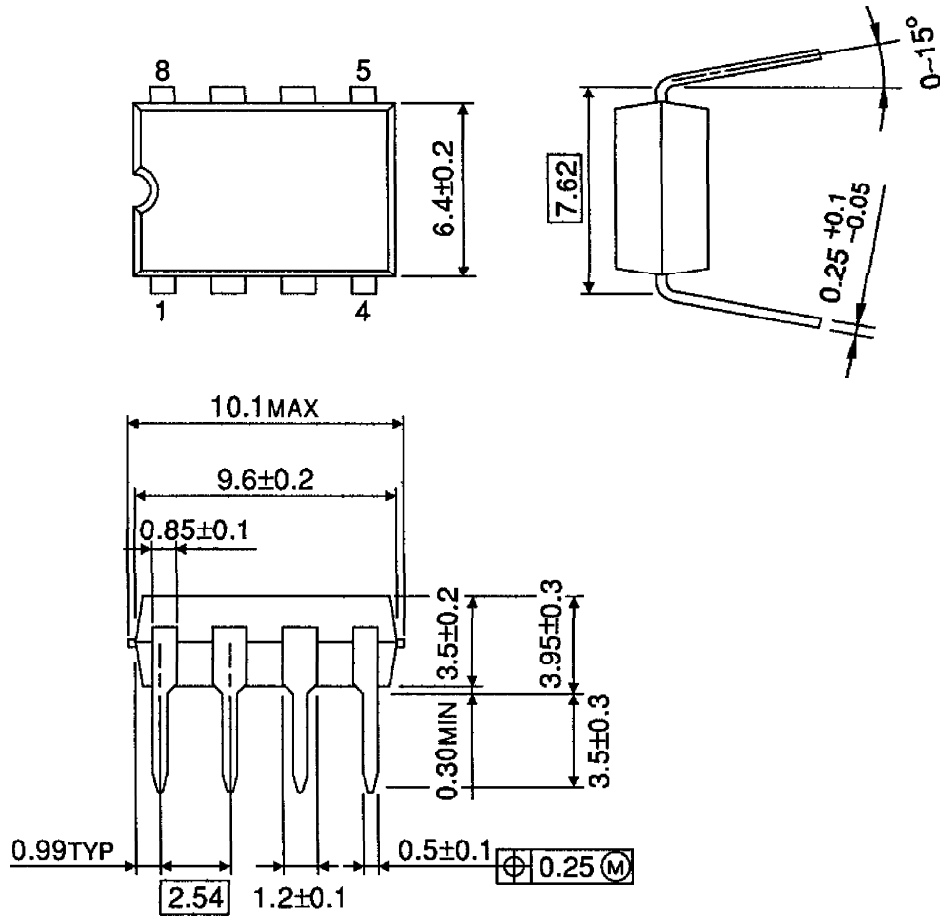
EXAMPLE OF APPLICATION CIRCUIT



Note : The tolerance of R_1 and R_2 is within $\pm 5\%$.

OUTLINE DRAWING
DIP8-P-300-2.54A

Unit : mm



Weight : 0.45g (Typ.)