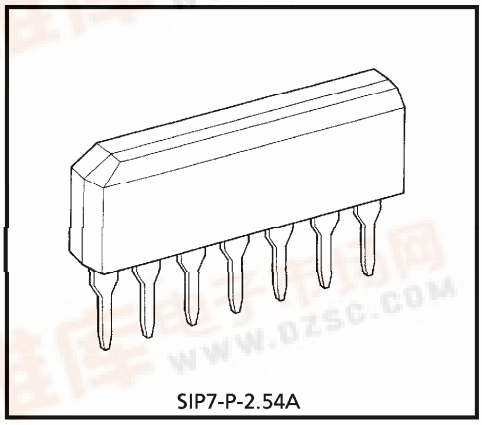
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8066AS

DUAL LOWSIDE DRIVER

The TA8066AS is a 0.3A low side driver containing two circuits in one package.
The input level is TTL compatible so that the output can be controlled directly from CPU system and the like.
Protective functions are built in to protect IC and load from destruction caused of over stress.



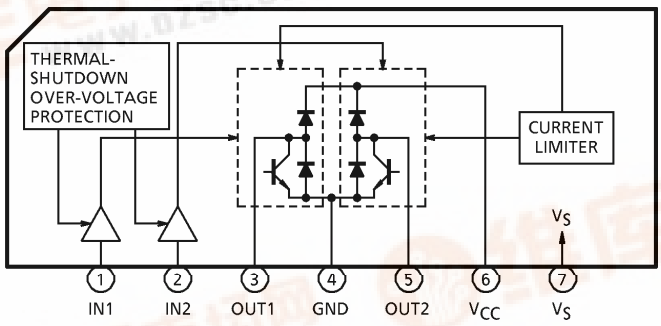
SIP7-P-2.54A

Weight : 0.7g (Typ.)

FEATURES

- 2 circuit in one package.
- Output current capacity : 0.3A
- Low Standby Current : 100μA (Max.)
- Protective function : Over-voltage Protection
  Current Limiter
  Thermal-Shutdown
- Separated Power Supply of Power Portion and Logic portion.
- Built-in Counter Electromotive Force Absorption Diodes.
- SIP 7pin Plastic Package.

BLOCK DIAGRAM AND PIN LAYOUT



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PIN DESCRIPTIONS

PIN No.	SYMBOL	DESCRIPTION
1	IN1	These terminals control output condition. The input level is TTL Compatible. (IN1, IN2)→(Low, Low) : Low Standby Current Mode 100μA (Max.)
2	IN2	
3	OUT1	PNP-NPN complementary output pin with a current capacity of 0.3A. When the output pin is supplied with a current exceeding the detection current (typically 0.55A) because of load short-circuit, the output is limited to protect the IC.
5	OUT2	
4	GND	Ground terminal.
6	V_{CC}	Power supply terminal for the output part of IC. Built-in over-voltage function protects IC and load when the supplied voltage is higher than 30V.
7	V_S	Power supply terminal for the control part of IC and this pin is separated from V_{CC}.

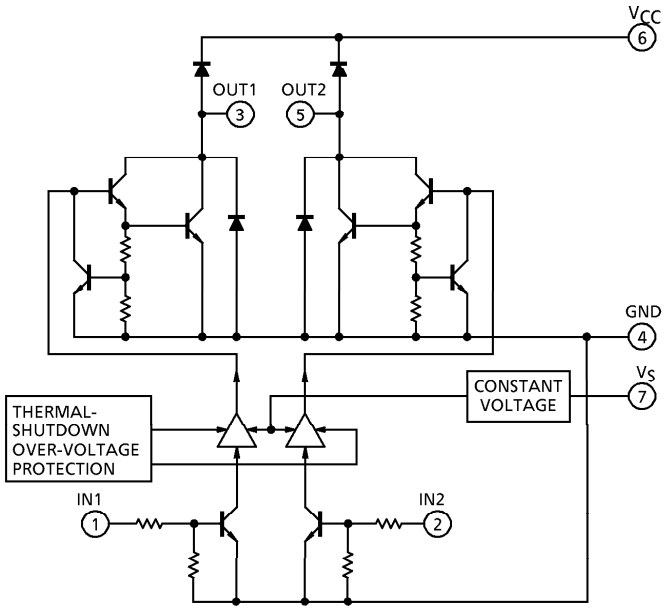
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V_{CC}	50 (1s)	V
Input Voltage	V_{IN}	$-0.3 \sim V_{CC}+0.3$	V
Output Current	I_{out}	300	mA
Power Dissipation	P_D	0.92	W
Operating Temperature	T_{opr}	$-40 \sim 85$	°C
Storage Temperature	T_{stg}	$-55 \sim 150$	°C
Lead Temperature·Time	T_{sol}	260 (10s)	°C

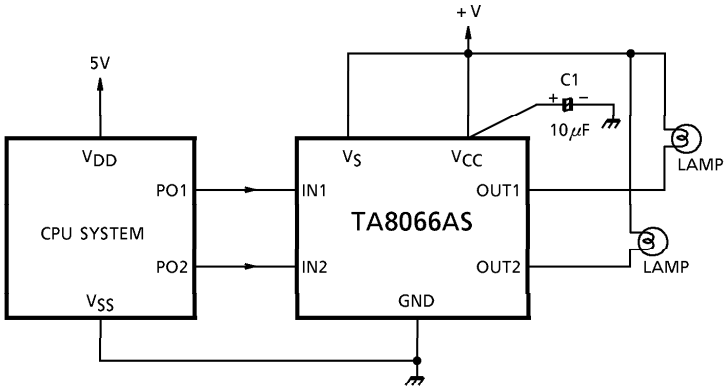
ELECTRICAL CHARACTERISTICS (V_S, V_{CC} = 8~16V, Ta = −40~85°C)

CHARACTERISTIC	SYMBOL	PIN	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current (Ⅰ)	I_{S1}	V_S	—	(IN1, IN2) = (L, L)	—	—	0.05	mA
	I_{S2}		—	(IN1, IN2) = (L, H) or (H, L)	—	6	15	
	I_{S3}		—	(IN1, IN2) = (H, H)	—	9	20	
Supply Current (Ⅱ)	I_{CC1}	V_{CC}	—	(IN1, IN2) = (L, L)	—	—	0.05	mA
	I_{CC2}		—	(IN1, IN2) = (L, H) or (H, L)	—	—	0.05	
	I_{CC3}		—	(IN1, IN2) = (H, H)	—	—	0.05	
Input Voltage	V_{IL}	IN1 / IN2	—	—	—	—	0.8	V
	V_{IH}		—	—	2.0	—	—	
Input Current	I_{IL}	IN1 / IN2	—	V_{IN} = 0.4V	—	10	20	μA
	I_{IH}		—	V_{IN} = 5V	—	170	350	
Output Saturation Voltage	V_{sat}	OUT1 / OUT2	—	I_O = 300mA	—	1.0	1.5	V
Output Leakage Current	I_{LEAK}	OUT1 / OUT2	—	V_{OUT} = 0V	− 100	—	—	μA
Diode Forward Voltage	V_F	OUT1 / OUT2	—	I_F = 200mA	—	1.1	—	V
Output Limit Current	ISC	OUT1 / OUT2	—	—	0.3	0.55	—	A
Shutdown Temperature	TSD-H	OUT1 / OUT2	—	OUT = ON→OFF	—	150	—	°C
	TSD-L		—	OUT = OFF→ON	—	130	—	
Over-voltage Detection	V_{SD}	V_{CC}	—	—	27	30	33	V
Transfer Delay Time	t_{PLH}	—	—	—	—	1	10	μs
	t_{PHL}		—	—	—	1	10	

EQUIVALENT CIRCUIT



APPLICATION CIRCUIT

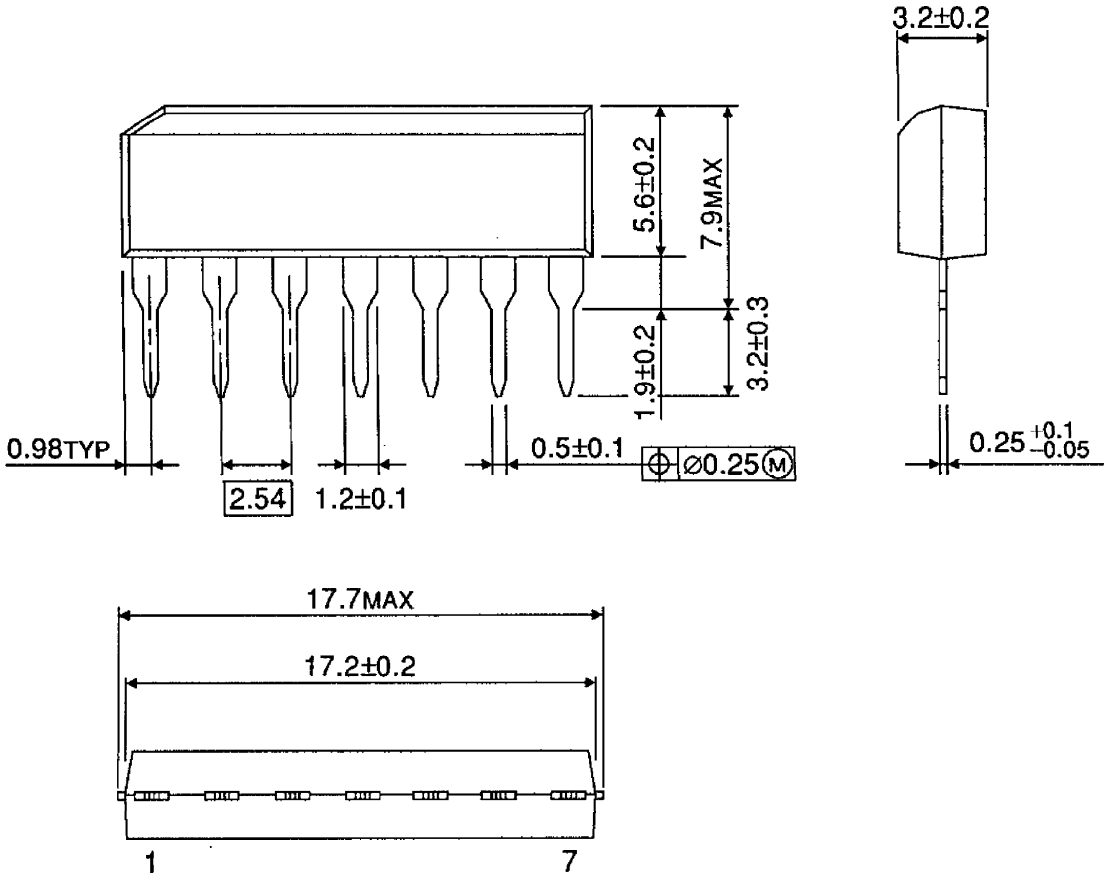


Cautions for wirings
C1 is for absorbing disturbance, noise, etc.
Connect it as close to the IC as possible.

OUTLINE DRAWING

SIP7-P-2.54A

Unit : mm



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