

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8066AS

DUAL LOWSIDE DRIVER

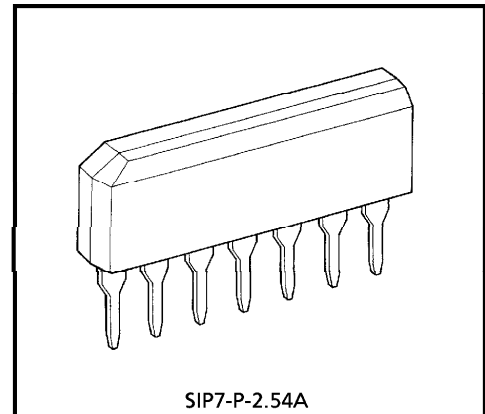
The TA8066AS is a 0.3A low side driver containing two circuits in one package.

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.

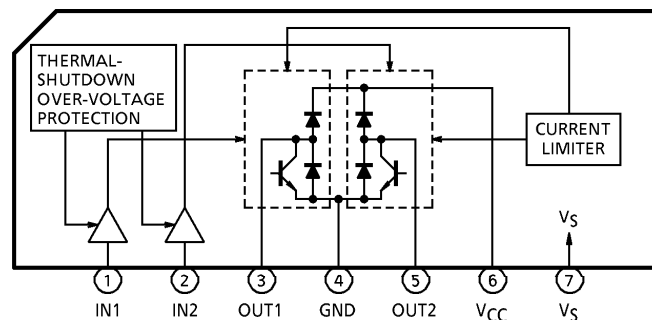
FEATURES

- 2 circuit in one package.
- Output current capacity : 0.3A
- Low Standby Current : 100 μ A (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.



SIP7-P-2.54A
Weight : 0.7g (Typ.)

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 100 μ A (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} . |

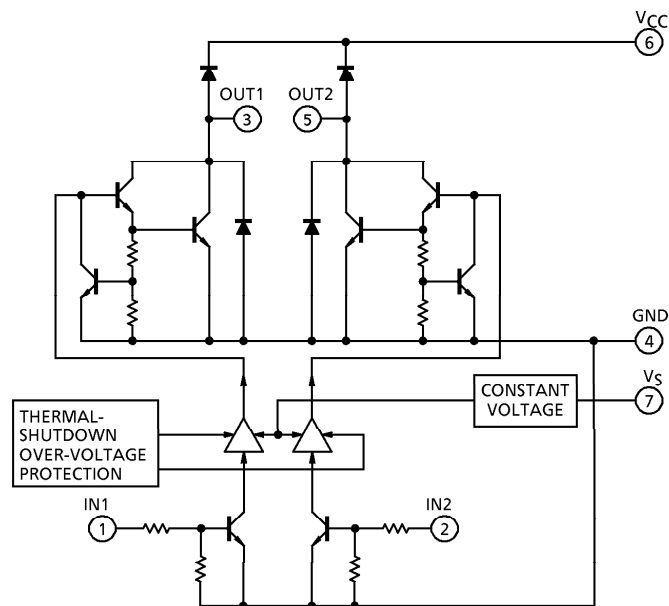
MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------|------------------|---------------------------|------|
| Power Supply Voltage | V _{CC} | 50 (1s) | V |
| Input Voltage | V _{IN} | -0.3~V _{CC} +0.3 | V |
| Output Current | I _{out} | 300 | mA |
| Power Dissipation | P _D | 0.92 | W |
| Operating Temperature | T _{opr} | -40~85 | °C |
| Storage Temperature | T _{stg} | -55~150 | °C |
| Lead Temperature·Time | T _{sol} | 260 (10s) | °C |

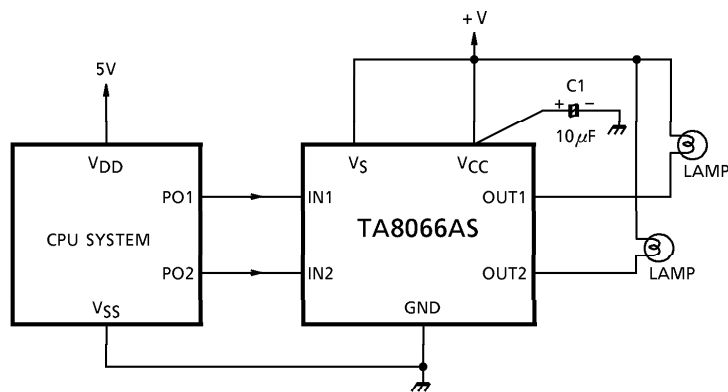
ELECTRICAL CHARACTERISTICS ($V_S, V_{CC} = 8 \sim 16V, T_a = -40 \sim 85^\circ C$)

| 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 / | — | — | — | — | 0.8 | V |
| | V_{IH} | IN2 | — | — | 2.0 | — | — | |
| Input Current | I_{IL} | IN1 / | — | $V_{IN} = 0.4V$ | — | 10 | 20 | μA |
| | I_{IH} | IN2 | — | $V_{IN} = 5V$ | — | 170 | 350 | |
| Output Saturation Voltage | V_{sat} | OUT1 / | — | $I_O = 300mA$ | — | 1.0 | 1.5 | V |
| Output Leakage Current | I_{LEAK} | OUT1 / | — | $V_{OUT} = 0V$ | - 100 | — | — | μA |
| Diode Forward Voltage | V_F | OUT1 / | — | $I_F = 200mA$ | — | 1.1 | — | V |
| Output Limit Current | I_{SC} | OUT1 / | — | — | 0.3 | 0.55 | — | A |
| Shutdown Temperature | TSD-H | OUT1 / | — | OUT = ON→OFF | — | 150 | — | $^\circ C$ |
| | TSD-L | OUT2 | — | 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



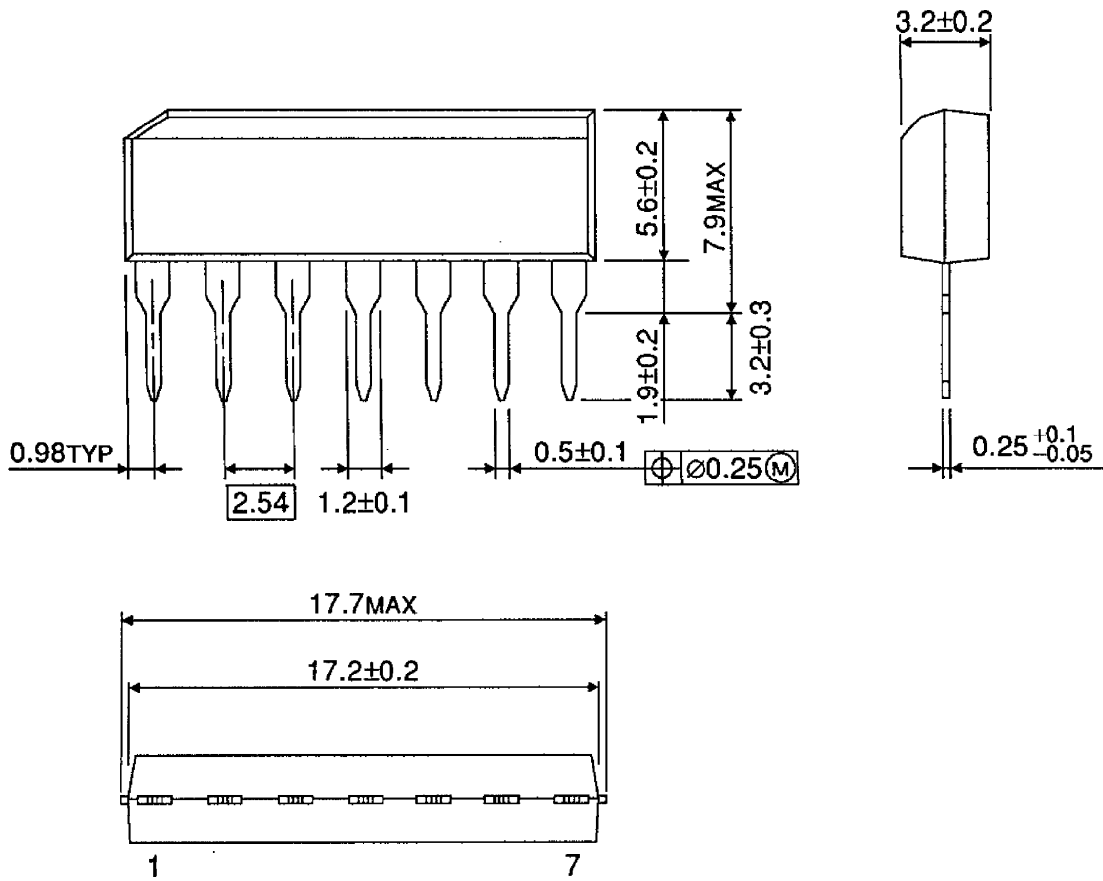
APPLICATION CIRCUIT



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



Weight : 0.7g (Typ.)