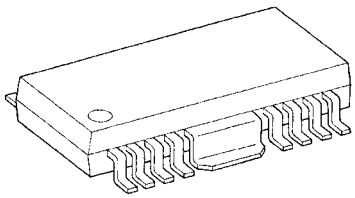
TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT MULTI CHIP

# TD62M8500F

## 8CH LOW SATURATION VOLTAGE SINK DRIVER

The TD62M8500F is Multi Chip IC incorporates 8 low saturation discrete transistors equipped Fly−wheeling Diode and Bias resistor.
This IC is suitable for a battery use motor drive and LED display module applications.



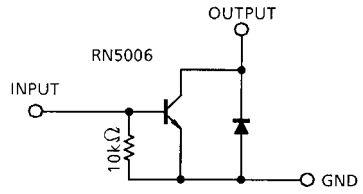
HSOP16-P-300-1.00

Weight: 0.50 g (Typ.)

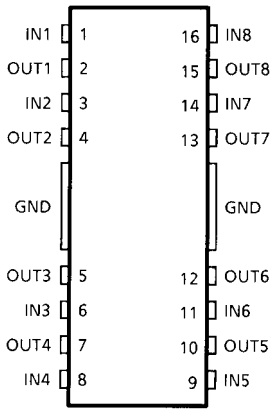
## FEATURES

- Suitable for Motor drive circuit and LED display module
- Bias Resistor and Diodes are equipped : R = 10 kΩ
- Low Saturation Voltage
  $V_{CE\ (sat)}$ = 0.16 V (Typ.) at $I_C$ = 1 A
  $V_{CE\ (sat)}$ = 0.30 V (Typ.) at $I_C$ = 2 A
- HSOP16 (1 mm pitch) power small package sealed

## SCHEMATIC




## PIN CONNECTION (TOP VIEW)



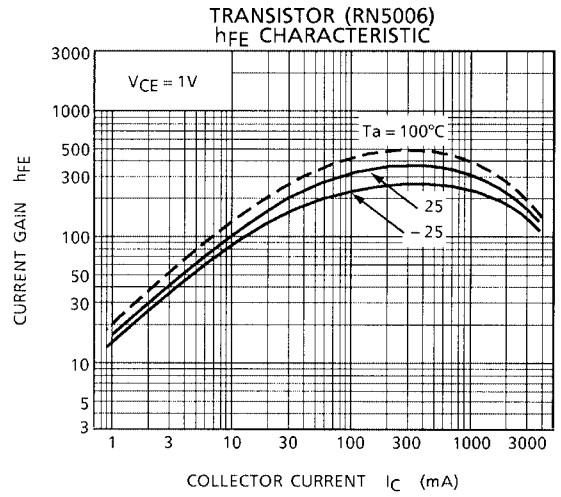
## MAXIMUM RATINGS (Ta = 25°C)

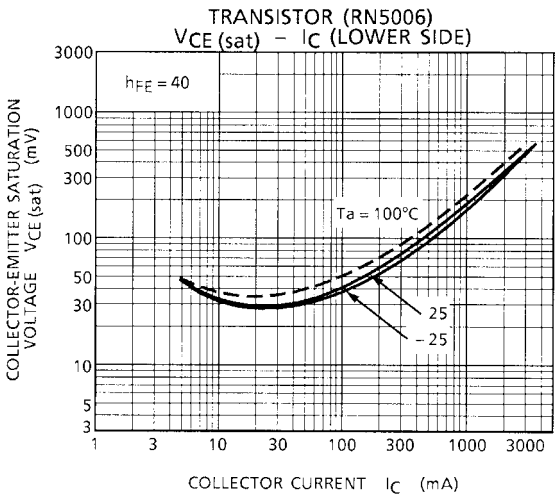
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Supply Voltage | $V_{CC}$ | 10 | V |
| Breakdown Voltage | $V_{CBO}$ | 10 | V |
| | $V_{CER}$ | 10 | |
| | $V_{EBO}$ | 6 | |
| Output Current | $I_{O\ (AVE)}$ | 2 | A |
| | $I_{O\ (PRAK)}$ | 4 (Note 1) | |
| Base Current | $I_{B\ (AVE)}$ | 0.4 | A |
| | $I_{B\ (PRAK)}$ | 0.8 | |
| Fly−wheeling Diode Forward Current | $I_F$ | 2 (Note 2) | A |
| Power Dissipation | $P_D$ | 900 | mW |
| Junction Temperature | $T_j$ | 150 | °C |
| Operating Temperature | $T_{opr}$ | −40~85 | °C |
| Storage Temperature | $T_{stg}$ | −55~150 | °C |

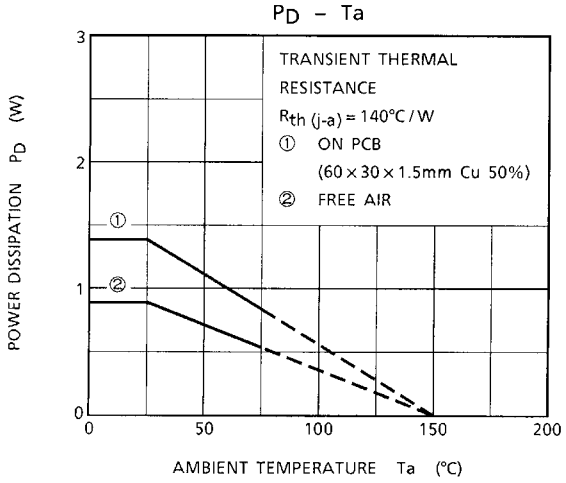
Note 1: T = 10 ms MAX. and maximum duty is less than 30%.
Note 2: T = 10 ms single pulse

## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CIR−CUIT | TEST CONDITION | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| Current Gain | $h_{FE\ (1)}$ | — | $V_{CE}$ = 1 V, $I_C$ = 0.5 A | 160 | — | 600 | — |
| | $h_{FE\ (2)}$ | | $V_{CE}$ = 1 V, $I_C$ = 1.5 A | 60 | 130 | — | |
| Saturation Voltage | $V_{CE\ (sat)}$ | — | $I_C$ = 1 A, $I_B$ = 25 mA | — | 0.16 | 0.32 | V |
| | | | $I_C$ = 2 A, $I_B$ = 50 mA | — | 0.30 | 0.50 | |
| Transition Frequency | $f_T$ | — | $V_{CE}$ = 2 V, $I_C$ = 0.5 A | — | 150 | — | MHz |
| Leakage Current | $I_{OL}$ | — | $V_{CC}$ = 10 V | — | 0 | 10 | μA |
| Fly−wheeling Diode Forward Voltage | $V_F$ | — | $I_F$ = 300 mA | — | 0.18 | 1.5 | V |
| | | | $I_F$ = 450 mA, 10 ms | — | 1.90 | — | |
| Base−Emitter Resistor | $R_{BE}$ | — | — | 7 | 10 | 13 | kΩ |
| Base−Emitter Forward Voltage | $V_{BE}$ | — | $V_{CE}$ = 1 V, $I_C$ = 2.0 A | — | 0.84 | 1.5 | V |



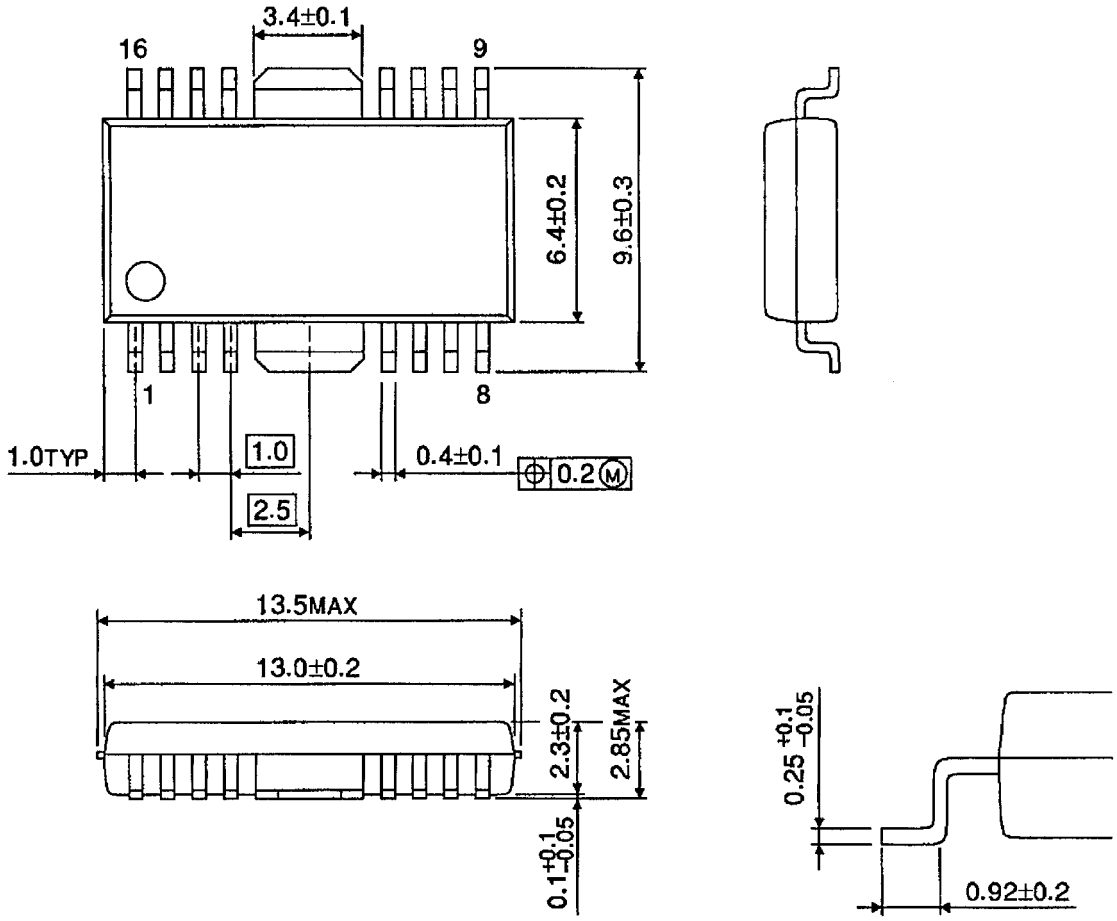

## PRECAUTIONS for USING

This IC does not integrate protection circuits such as overcurrent and overvoltage protectors. Thus, if excess current or voltage is applied to the IC, the IC may be damaged. Please design the IC so that excess current or voltage will not be applied to the IC.

Utmost care is necessary in the design of the output line, $V_{CC}$ and GND line since IC may be destroyed due to short−circuit between outputs, air contamination fault, or fault by improper grounding.

## PACKAGE DIMENSIONS

HSOP16−P−300−1.00 Unit: mm




Weight: 0.50 g (Typ.)

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