

9097250 TOSHIBA (DISCRETE/OPTO)  
SILICON NPN TRIPLE DIFFUSED TYPE  
(DARLINGTON POWER)

56C 07976 D T-33-29

# 2SD1460

HIGH CURRENT SWITCHING APPLICATIONS;

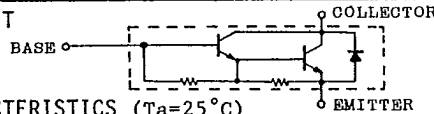
FEATURES:

- High Collector Current :  $I_C=30A$
- High DC Current Gain :  $h_{FE}=1000(\text{Min.})(V_{CE}=5V, I_C=20A)$
- Monolithic Construction with Built-In Base-Emitter Shunt Resistor.

MAXIMUM RATINGS ( $T_a=25^\circ C$ )

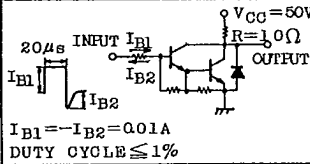
| CHARACTERISTIC                                      | SYMBOL    | RATING    | UNIT       |
|-----------------------------------------------------|-----------|-----------|------------|
| Collector-Base Voltage                              | $V_{CBO}$ | 100       | V          |
| Collector-Emitter Voltage                           | $V_{CEO}$ | 100       | V          |
| Emitter-Base Voltage                                | $V_{EBO}$ | 5         | V          |
| Collector Current                                   | $I_C$     | 30        | A          |
| Base Current                                        | $I_B$     | 5         | A          |
| Collector Power Dissipation<br>( $T_c=25^\circ C$ ) | $P_C$     | 200       | W          |
| Junction Temperature                                | $T_j$     | 150       | $^\circ C$ |
| Storage Temperature Range                           | $T_{stg}$ | -65 ~ 150 | $^\circ C$ |

EQUIVALENT CIRCUIT

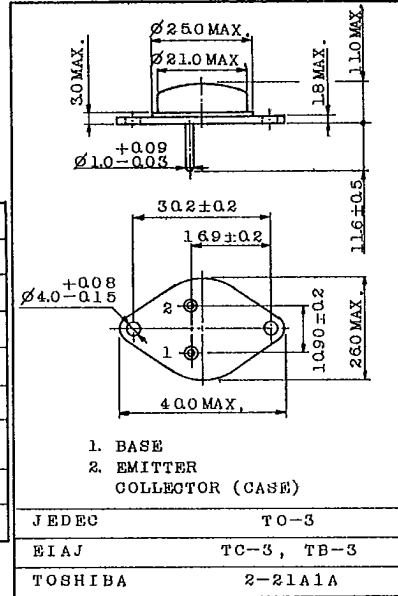


ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

| CHARACTERISTIC                       | SYMBOL        | TEST CONDITION              | MIN. | TYP. | MAX. | UNIT    |
|--------------------------------------|---------------|-----------------------------|------|------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB}=100V, I_E=0$        | -    | -    | 100  | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB}=5V, I_C=0$          | -    | -    | 10   | mA      |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=50mA, I_B=0$           | 100  | -    | -    | V       |
| DC Current Gain                      | $h_{FE(1)}$   | $V_{CE}=5V, I_C=20A$        | 1000 | -    | -    |         |
|                                      | $h_{FE(2)}$   | $V_{CE}=5V, I_C=30A$        | 200  | -    | -    |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=20A, I_B=0.2A$         | -    | -    | 1.5  | V       |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ |                             | -    | -    | 2.0  | V       |
| Emitter-Collector Forward Voltage    | $V_{ECF}$     | $I_E=10A, I_B=0$            | -    | -    | 3    | V       |
| Transition Frequency                 | $f_T$         | $V_{CE}=5V, I_C=1A$         | -    | 10   | -    | MHz     |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB}=10V, I_E=0, f=1MHz$ | -    | 500  | -    | pF      |
| Switching Time                       | Turn on Time  | $t_{on}$                    | -    | 1.5  | -    | $\mu s$ |
|                                      | Storage Time  | $t_{stg}$                   | -    | 10   | -    |         |
|                                      | Fall Time     | $t_f$                       | -    | 1.5  | -    |         |



Unit in mm



- BASE
- EMITTER
- COLLECTOR (CASE)

JEDEC TO-3  
EIAJ TC-3, TB-3  
TOSHIBA 2-21A1A

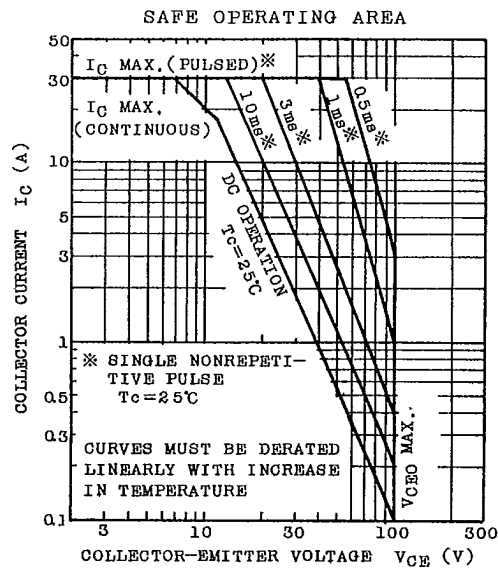
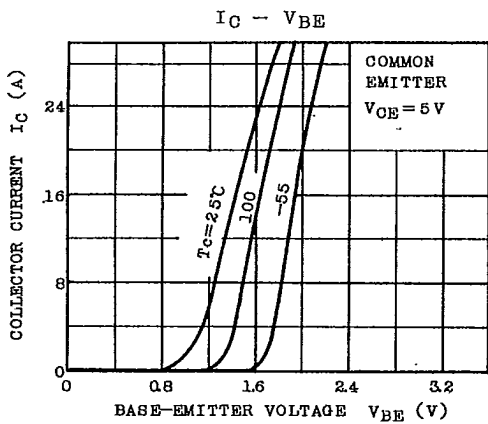
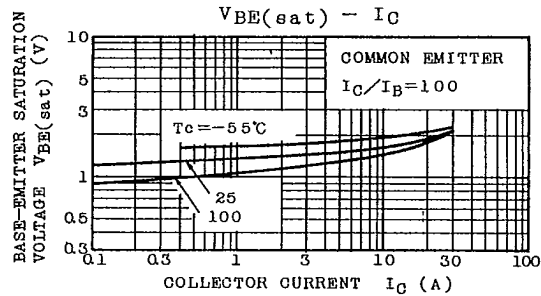
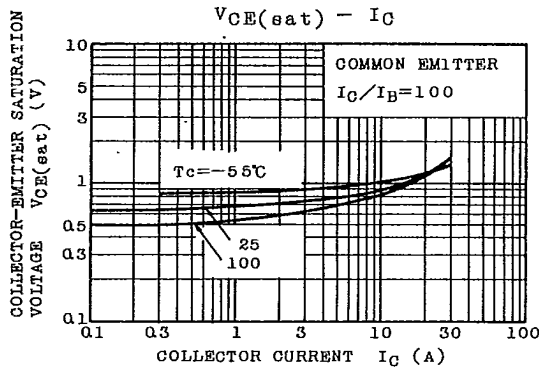
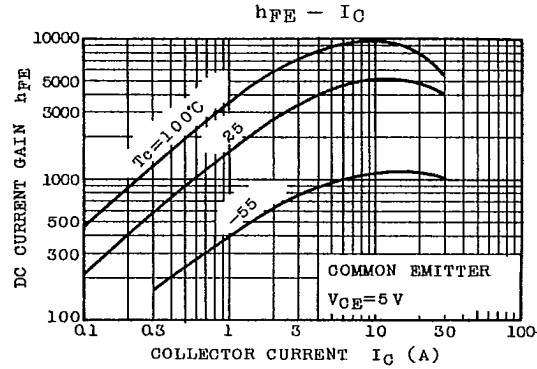
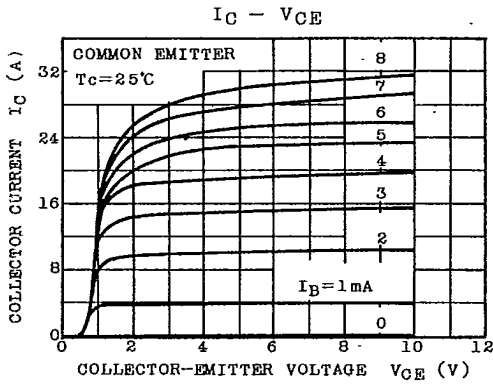
Mounting Kit No. AC73  
Weight : 13g

TOSHIBA CORPORATION

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