

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07703 DT-33-11

**2SC3346**

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

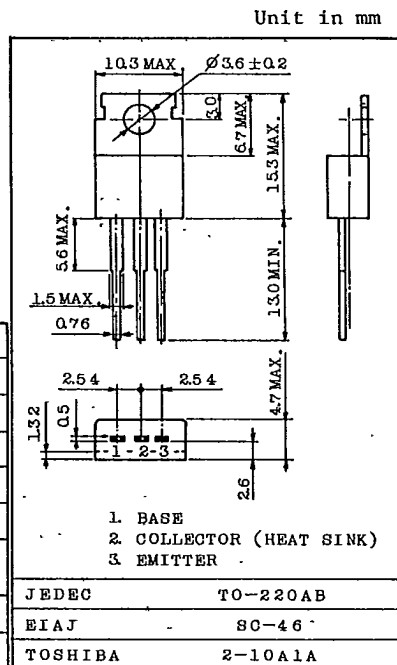
HIGH CURRENT SWITCHING APPLICATIONS.

## FEATURES:

- Low Collector Saturation Voltage  
:  $V_{CE(sat)}=0.4V$  (Max.) (at  $I_C=6A$ )
- High Speed Switching Time :  $t_{stg}=1.0\mu s$  (Typ.)
- Complementary to 2SA1329

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

| CHARACTERISTIC                                      | SYMBOL    | RATING    | UNIT       |
|---|-----------|-----------|------------|
| Collector-Base Voltage                              | $V_{CBO}$ | 80        | V          |
| Collector-Emitter Voltage                           | $V_{CEO}$ | 80        | V          |
| Emitter-Base Voltage                                | $V_{EBO}$ | 6         | V          |
| Collector Current                                   | $I_C$     | 12        | A          |
| Base Current  | $I_B$     | 2         | A          |
| Collector Power Dissipation<br>( $T_c=25^\circ C$ ) | $P_C$     | 40        | W          |
| Junction Temperature                                | $T_j$     | 150       | $^\circ C$ |
| Storage Temperature Range                           | $T_{stg}$ | -55 ~ 150 | $^\circ C$ |

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

| CHARACTERISTIC                      |                   | SYMBOL                | TEST CONDITION              | MIN. | TYP. | MAX. | UNIT    |
|-------------------------------------|-------------------|-----------------------|-----------------------------|------|------|------|---------|
| Collector Cut-off Current           |                   | $I_{CBO}$             | $V_{CB}=80V, I_E=0$         | -    | -    | 10   | $\mu A$ |
| Emitter Cut-off Current             |                   | $I_{EBO}$             | $V_{EB}=6V, I_C=0$          | -    | -    | 10   | $\mu A$ |
| Collector-Emitter Breakdown Voltage |                   | $V_{(BR)CEO}$         | $I_C=50mA, I_B=0$           | 80   | -    | -    | V       |
| DC Current Gain                     |                   | $h_{FE(1)}$<br>(Note) | $V_{CE}=1V, I_C=1A$         | 70   | -    | 240  |         |
|                                     |                   | $h_{FE(2)}$           | $V_{CE}=1V, I_C=6A$         | 40   | -    | -    |         |
| Saturation Voltage                  | Collector-Emitter | $V_{CE(sat)}$         | $I_C=6A, I_B=0.3A$          | -    | 0.2  | 0.4  | V       |
|                                     | Base-Emitter      | $V_{BE(sat)}$         | $I_C=6A, I_B=0.3A$          | -    | 0.9  | 1.2  |         |
| Transition Frequency                |                   | $f_T$                 | $V_{CE}=5V, I_C=1A$         | -    | 80   | -    | MHz     |
| Collector Output Capacitance        |                   | $C_{ob}$              | $V_{CB}=10V, I_E=0, f=1MHz$ | -    | 220  | -    | pF      |
| Switching Time                      | Turn-on Time      | $t_{on}$              |                             | -    | 0.2  | -    | $\mu s$ |
|                                     | Storage Time      | $t_{stg}$             |                             | -    | 1.0  | -    |         |
|                                     | Fall Time         | $t_f$                 |                             | -    | 0.2  | -    |         |

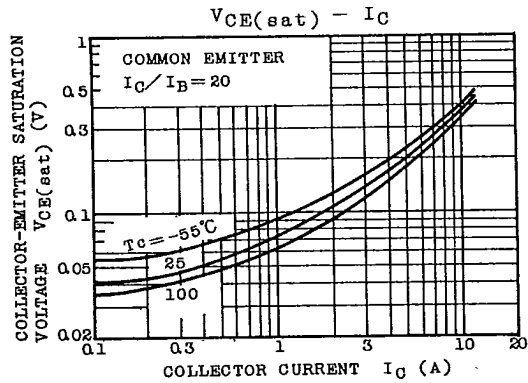
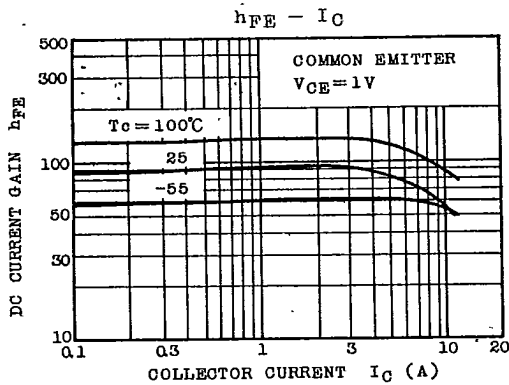
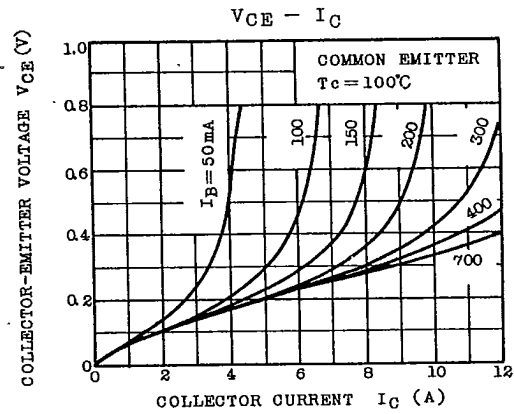
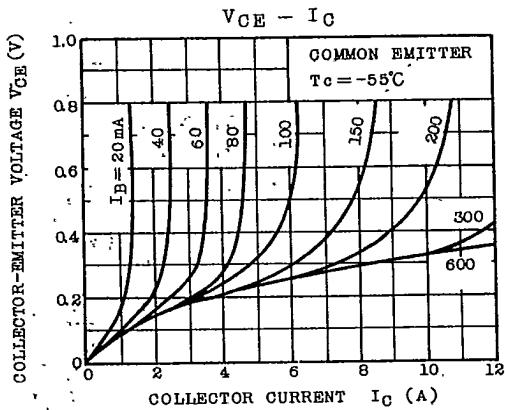
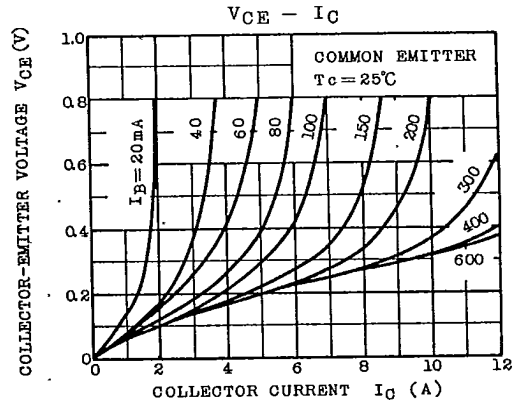
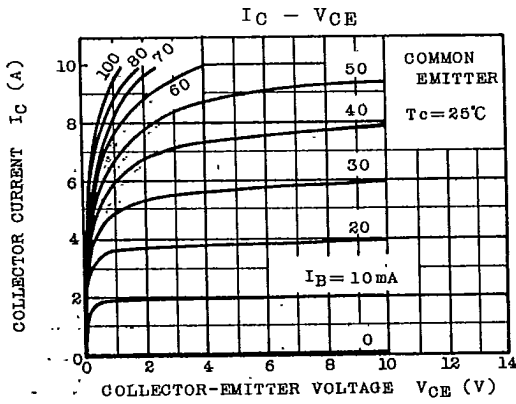
Note :  $h_{FE(1)}$  Classification O : 70~140, Y : 120~240

TOSHIBA CORPORATION

9097250 TOSHIBA (DISCRETE/OPTO)

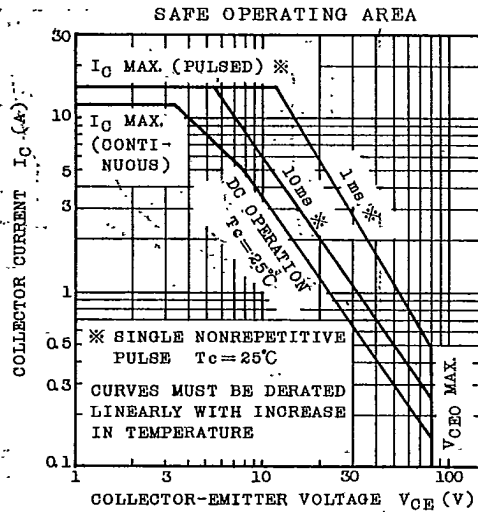
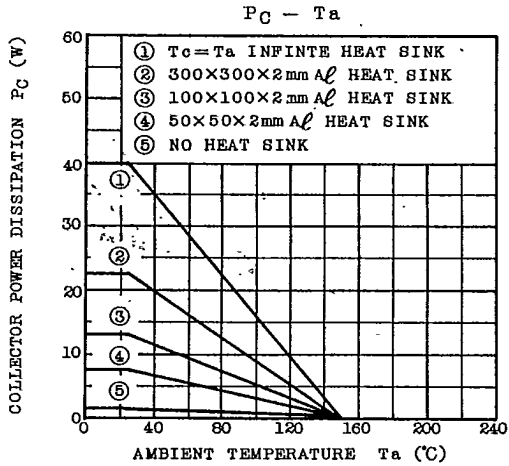
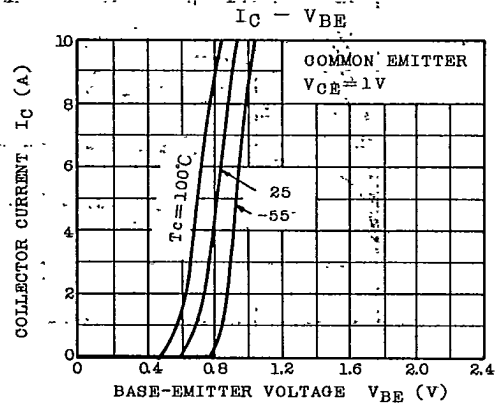
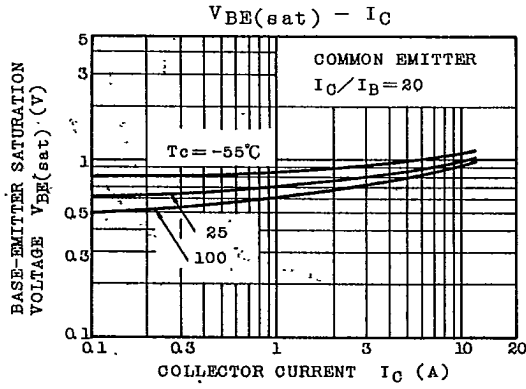
56C 07704 DT-33-11

2SC3346



TOSHIBA CORPORATION

**2SC3346**



TOSHIBA CORPORATION