

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

## 2SC3805

TV HORIZONTAL DEFLECTION OUTPUT APPLICATIONS

TV CHROMA OUTPUT APPLICATIONS

- High Voltage :  $V_{CEO} = 300\text{ V}$
- Low Output Capacitance :  $C_{ob} = 3.0\text{ pF (Typ.)}$

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

| CHARACTERISTIC                                              |       | SYMBOL    | RATING         | UNIT             |
|-------------------------------------------------------------|-------|-----------|----------------|------------------|
| Collector-Base Voltage                                      |       | $V_{CBO}$ | 300            | V                |
| Collector-Emitter Voltage                                   |       | $V_{CEO}$ | 300            | V                |
| Emitter-Base Voltage                                        |       | $V_{EBO}$ | 7              | V                |
| Collector Current                                           | DC    | $I_C$     | 100            | mA               |
|                                                             | Pulse | $I_{CP}$  | 200            |                  |
| Base Current                                                |       | $I_B$     | 50             | mA               |
| Collector Power Dissipation<br>( $T_c = 25^\circ\text{C}$ ) |       | $P_C$     | 10             | W                |
| Junction Temperature                                        |       | $T_j$     | 150            | $^\circ\text{C}$ |
| Storage Temperature Range                                   |       | $T_{stg}$ | $-55 \sim 150$ | $^\circ\text{C}$ |

Unit in mm

|                               |  |                                                      |
|-------------------------------|--|------------------------------------------------------|
| (A)                           |  |                                                      |
| (B)                           |  |                                                      |
|                               |  | 1. BASE<br>2. COLLECTOR<br>(HEAT SINK)<br>3. EMITTER |
| JEDEC                         |  | —                                                    |
| EIAJ                          |  | —                                                    |
| TOSHIBA (A) 2-7B1A (B) 2-7B2A |  |                                                      |

Weight : 0.36 g (Typ.)

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

| CHARACTERISTIC                       | SYMBOL        | TEST CONDITION                                    | MIN. | TYP. | MAX. | UNIT          |
|--------------------------------------|---------------|---------------------------------------------------|------|------|------|---------------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = 240\text{ V}, I_E = 0$                  | —    | —    | 1.0  | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = 7\text{ V}, I_C = 0$                    | —    | —    | 1.0  | mA            |
| DC Current Gain                      | $h_{FE}(1)$   | $V_{CE} = 10\text{ V}, I_C = 0.5\text{ mA}$       | 20   | —    | —    |               |
|                                      | $h_{FE}(2)$   | $V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$        | 30   | —    | 200  |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 10\text{ mA}, I_B = 1\text{ mA}$           | —    | —    | 1.0  | V             |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = 10\text{ mA}, I_B = 1\text{ mA}$           | —    | —    | 1.0  | V             |
| Transition Frequency                 | $f_T$         | $V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$        | 40   | 70   | —    | MHz           |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB} = 20\text{ V}, I_E = 0, f = 1\text{ MHz}$ | —    | 3.0  | —    | pF            |

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