

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD2599

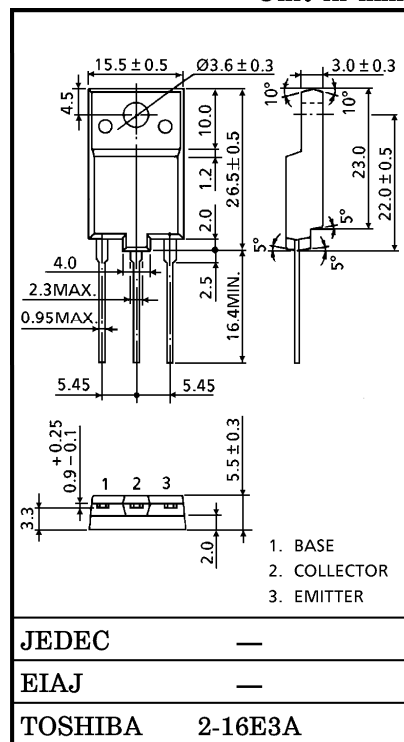
HORIZONTAL DEFLECTION OUTPUT FOR COLOR TV

Unit in mm

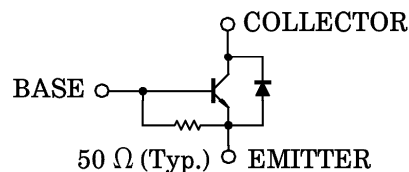
- High Voltage : $V_{CB0} = 1500\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 8\text{ V (Max.)}$
- High Speed : $t_f = 0.5\ \mu\text{s (Typ.)}$
- Built-in Damper Type
- Collector Metal (Fin) is Fully Covered with Mold Resin.

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

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|-----------|----------|------------------|
| Collector-Base Voltage | V_{CB0} | 1500 | V |
| Collector-Emitter Voltage | V_{CEO} | 600 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current | DC | I_C | 3.5 |
| | Pulse | I_{CP} | 7 |
| Base Current | I_B | 1 | A |
| Collector Power Dissipation ($T_c = 25^\circ\text{C}$) | P_C | 40 | W |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55~150 | $^\circ\text{C}$ |



EQUIVALENT CIRCUIT



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● The information contained herein is subject to change without notice.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|---|------|------|------|---------------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 1500\text{ V}, I_E = 0$ | — | — | 1 | mA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 5\text{ V}, I_C = 0$ | 66 | — | 200 | mA |
| Emitter-Base Breakdown Voltage | V_{EBO} | $I_E = 300\text{ mA}, I_C = 0$ | 5 | — | — | V |
| DC Current Gain | h_{FE} | $V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}$ | 8 | — | 25 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 3\text{ A}, I_B = 0.8\text{ A}$ | — | 5 | 8 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 3\text{ A}, I_B = 0.8\text{ A}$ | — | 0.9 | 1.5 | V |
| Forward Voltage (Damper Diode) | $-V_F$ | $I_F = 3.5\text{ A}$ | — | 1.5 | 2.0 | V |
| Transition Frequency | f_T | $V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}$ | — | 3 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 55 | — | pF |
| Switching Time | Storage Time | $I_{CP} = 3\text{ A}, I_{B1}(\text{end}) = 0.8\text{ A},$ $f_H = 15.75\text{ kHz}$ | — | 7.5 | 10 | μs |
| | Fall Time | | — | 0.5 | 1.0 | |

