

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5331

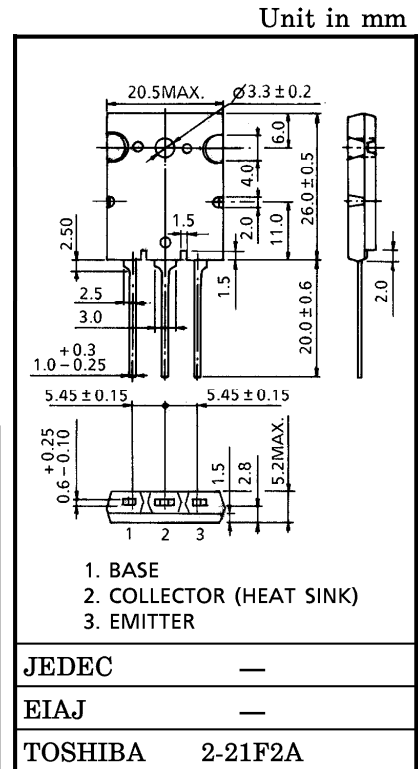
HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY, COLOR TV

HIGH SPEED SWITCHING APPLICATIONS

- High Voltage : $V_{CB0} = 1500\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 3\text{ V (Max.)}$
- High Speed : $t_f = 0.12\ \mu\text{s (Typ.)}$

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 | 15 |
| | Pulse | I_{CP} | 30 |
| Base Current | I_B | 7.5 | A |
| Collector Power Dissipation ($T_c = 25^\circ\text{C}$) | P_C | 180 | W |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55~150 | $^\circ\text{C}$ |



Weight : 9.75 g (Typ.)

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

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|--|------|------|------|---------------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 1500\text{ V}, I_E = 0$ | — | — | 1 | mA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 5\text{ V}, I_C = 0$ | — | — | 10 | μA |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 10\text{ mA}, I_B = 0$ | 600 | — | — | V |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE} = 5\text{ V}, I_C = 1\text{ A}$ | 10 | — | 38 | — |
| | $h_{FE(2)}$ | $V_{CE} = 5\text{ V}, I_C = 9\text{ A}$ | 4.2 | — | 7.2 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 9\text{ A}, I_B = 2.25\text{ A}$ | — | — | 3 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 9\text{ A}, I_B = 2.25\text{ A}$ | — | 1.0 | 1.4 | V |
| Transition Frequency | f_T | $V_{CE} = 10\text{ V}, I_E = 0.1\text{ A}$ | — | 1.7 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 160 | — | pF |
| Switching Time | Storage Time | $I_{CP} = 8\text{ A}, I_{B1}(\text{end}) = 1.6\text{ A}$ | — | 3.0 | 4.0 | μs |
| | Fall Time | | — | 0.12 | 0.3 | |

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