

TOSHIBA TRANSISTOR SILICON EPITAXIAL PLANAR TYPE

2SC4203

VIDEO OUTPUT FOR HIGH DEFINITION VDT

HIGH SPEED SWITCHING APPLICATIONS

- High Transition Frequency : $f_T = 400 \text{ MHz (Typ.)}$
($V_{CE} = 10 \text{ V}, I_C = 70 \text{ mA}$)
- Low Output Capacitance : $C_{ob} = 5 \text{ pF (Max.)}$ ($V_{CB} = 30 \text{ V}$)
- High Voltage : $V_{CEO} = 150 \text{ V}$
- High Power Dissipation : $P_C = 10 \text{ W}$

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|---------------------------|--------------------------|-----------|---------|------------------|
| Collector-Base Voltage | | V_{CBO} | 180 | V |
| Collector-Emitter Voltage | | V_{CEO} | 150 | V |
| Emitter-Base Voltage | | V_{EBO} | 5 | V |
| Collector Current | DC | I_C | 0.3 | A |
| | Pulse | I_{CP} | 0.5 | |
| Base Current (DC) | | I_B | 0.2 | A |
| Power Dissipation | $T_c = 25^\circ\text{C}$ | P_C | 10 | W |
| | $T_a = 25^\circ\text{C}$ | | 1.0 | |
| Junction Temperature | | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | | T_{stg} | -55~150 | $^\circ\text{C}$ |

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

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|-----------------------------------------------------|------|------|------|---------------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 150 \text{ V}, I_E = 0$ | — | — | 10 | μA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 5 \text{ V}, I_C = 0$ | — | — | 10 | μA |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 1 \text{ mA}, I_B = 0$ | 150 | — | — | V |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE} = 10 \text{ V}, I_C = 50 \text{ mA}$ | 40 | — | 240 | |
| | $h_{FE(2)}$ | $V_{CE} = 10 \text{ V}, I_C = 200 \text{ mA}$ | 20 | — | — | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 200 \text{ mA}, I_B = 20 \text{ mA}$ | — | — | 2.0 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 200 \text{ mA}, I_B = 20 \text{ mA}$ | — | — | 1.5 | V |
| Transition Frequency | f_T | $V_{CE} = 10 \text{ V}, I_C = 70 \text{ mA}$ | 300 | 400 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = 30 \text{ V}, f = 1 \text{ MHz}, I_E = 0$ | — | 4.0 | 5.0 | pF |

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Unit in mm





