

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC5076

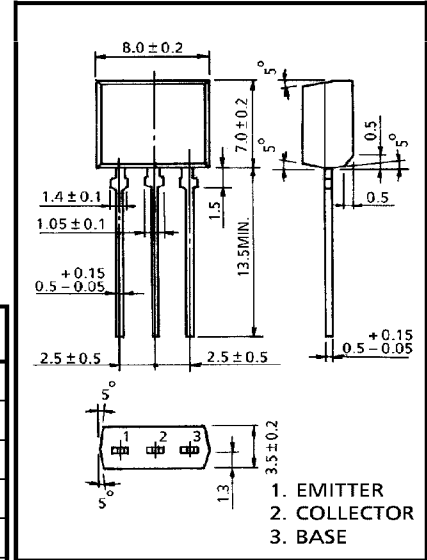
HIGH CURRENT SWITCHING APPLICATIONS

- Low Collector Saturation Voltage : $V_{CE(sat)} = 0.4V$ (Max.)
(at $I_C = 3A$)
- High Speed Switching Time : $t_{stg} = 1.0\mu s$ (Typ.)
- Complementary to 2SA1905

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

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|-----------|---------|------------|
| Collector-Base Voltage | V_{CB0} | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 50 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current | I_C | 5 | A |
| Base Current | I_B | 1 | A |
| Collector Power Dissipation | P_C | 1.3 | W |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | T_{stg} | -55~150 | $^\circ C$ |

Unit in mm



| | |
|---------|--------|
| JEDEC | — |
| EIAJ | — |
| TOSHIBA | 2-8M1A |

Weight : 0.55g

961001EAA2

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------------|-------------------|--------------------|--|------|------|------|---------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB} = 50V, I_E = 0$ | — | — | 1 | μA |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | — | — | 1 | μA |
| Collector-Emitter Breakdown Voltage | | $V_{(BR)CEO}$ | $I_C = 10mA, I_B = 0$ | 50 | — | — | V |
| DC Current Gain | | $h_{FE(1)}$ (Note) | $V_{CE} = 1V, I_C = 1A$ | 70 | — | 240 | |
| | | $h_{FE(2)}$ | $V_{CE} = 1V, I_C = 3A$ | 30 | — | — | |
| Saturation Voltage | Collector-Emitter | $V_{CE(sat)}$ | $I_C = 3A, I_B = 0.15A$ | — | 0.2 | 0.4 | V |
| | Base-Emitter | $V_{BE(sat)}$ | $I_C = 3A, I_B = 0.15A$ | — | 0.9 | 1.2 | |
| Transition Frequency | | f_T | $V_{CE} = 4V, I_C = 1A$ | — | 120 | — | MHz |
| Collector Output Capacitance | | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | — | 80 | — | pF |
| Switching Time | Turn-on Time | t_{on} | <p> $20\mu s$ I_{B1} INPUT I_{B2} OUTPUT $I_{B1} = -I_{B2} = 0.15A, V_{CC} = 30V$ DUTY CYCLE $\leq 1\%$ </p> | — | 0.1 | — | μs |
| | Storage Time | t_{stg} | | — | 1.0 | — | |
| | Fall Time | t_f | | — | 0.1 | — | |

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

