

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

2SD2604

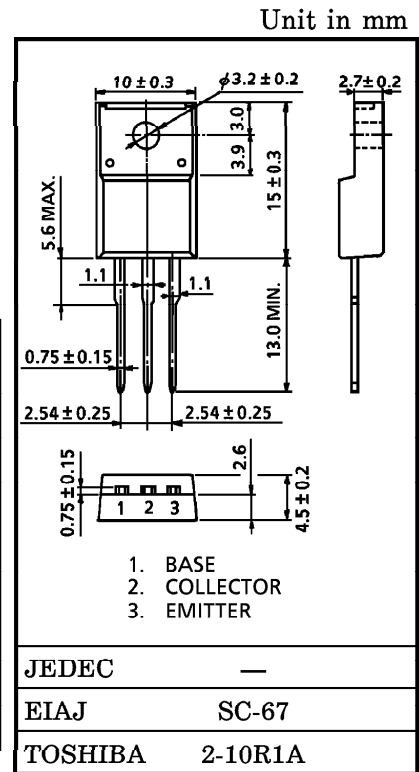
HIGH POWER SWITCHING APPLICATIONS

HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS

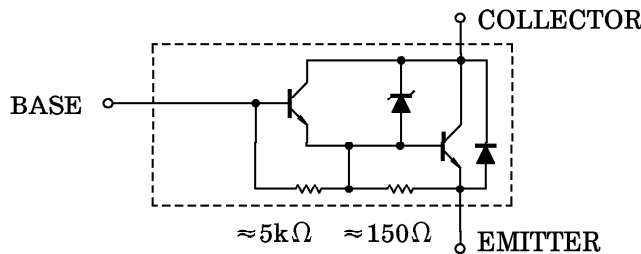
- High DC Current Gain : $h_{FE} = 2000$ (Min.)
- Low Saturation Voltage : $V_{CE(sat)} = 1.5V$ (Max.)

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------|--------------------|-----------|----------------|------------|
| Collector-Base Voltage | | V_{CBO} | 95 | V |
| Collector-Emitter Voltage | | V_{CEO} | 110 ± 15 | V |
| Emitter-Base Voltage | | V_{EBO} | 5 | V |
| Collector Current | DC | I_C | 5 | A |
| | Pulse | I_{CP} | 10 | A |
| Base Current | | I_B | 0.7 | A |
| Collector Power Dissipation | $T_a = 25^\circ C$ | P_C | 2.0 | W |
| | $T_c = 25^\circ C$ | | 20 | |
| Junction Temperature | | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | | T_{stg} | $-55 \sim 150$ | $^\circ C$ |



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} | $V_{CB} = 90V, I_E = 0$ | — | — | 100 | μA |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB} = 6V, I_C = 0$ | 0.75 | — | 3.0 | μA |
| Collector-Emitter Breakdown Voltage | | $V_{(BR) CEO}$ | $I_C = 10mA, I_B = 0$ | 95 | 110 | 125 | V |
| DC Current Gain | | $h_{FE} (1)$ | $V_{CE} = 3V, I_C = 2A$ | 2000 | — | 15000 | |
| | | $h_{FE} (2)$ | $V_{CE} = 3V, I_C = 5A$ | 1000 | — | — | |
| Collector-Emitter Saturation Voltage | | $V_{CE (sat)}$ | $I_C = 2A, I_B = 4mA$ | — | 0.9 | 1.5 | V |
| Base-Emitter Saturation Voltage | | $V_{BE (sat)}$ | $I_C = 2A, I_B = 4mA$ | — | 1.5 | 2.5 | V |
| Switching Time | Turn-on Time | t_{on} | <p> $I_{B1} = -I_{B2} = 4mA$ DUTY CYCLE $\leq 1\%$ $V_{CC} = 40V$ </p> | — | 0.5 | — | μs |
| | Storage Time | t_{stg} | | — | 5.0 | — | |
| | Fall Time | t_f | | — | 0.7 | — | |

