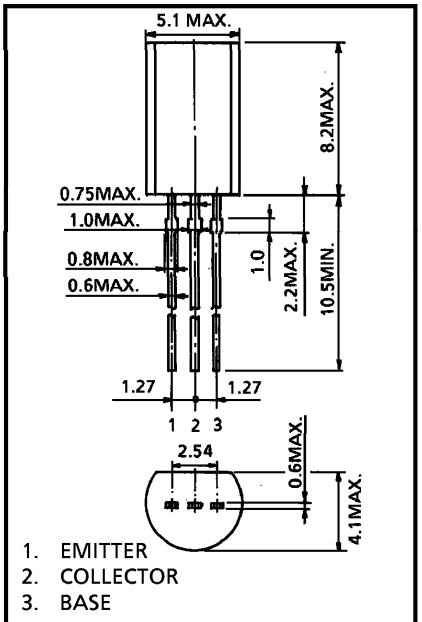
TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

# 2SC5122

HIGH VOLTAGE SWITCHING APPLICATIONS

- High Voltage : $V_{CEO}$ = 400V
- Low Saturation Voltage
  : $V_{CE\ (sat)}$ = 0.4V (Typ.) ($I_C$ = 20mA, $I_B$ = 0.5mA)

Unit in mm




| | |
|---|---|
| JEDEC | TO-92MOD |
| JEITA | — |
| TOSHIBA | 2-5J1A |

Weight : 0.36g (Typ.)

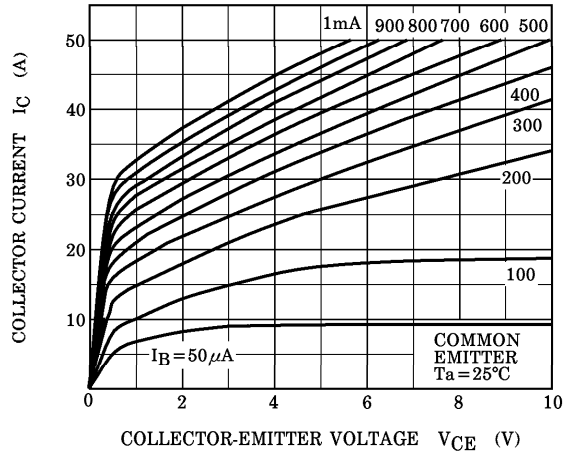
MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|---|---|---|---|---|
| Collector-Base Voltage | | $V_{CBO}$ | 400 | V |
| Collector-Emitter Voltage | | $V_{CEO}$ | 400 | V |
| Emitter-Base Voltage | | $V_{EBO}$ | 7 | V |
| Collector Current | DC | $I_C$ | 50 | mA |
| | Pulse | $I_{CP}$ | 100 | |
| Base Current | | $I_B$ | 25 | mA |
| Collector Power Dissipation | | $P_C$ | 900 | mW |
| Junction Temperature | | $T_j$ | 150 | °C |
| Storage Temperature Range | | $T_{stg}$ | −55~150 | °C |

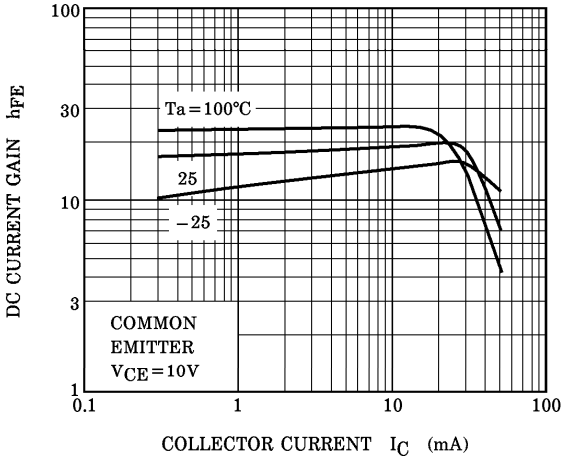
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$ = 400V, $I_E$ = 0 | — | — | 1 | μA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$ = 7V, $I_C$ = 0 | — | — | 1 | μA |
| Collector-Emitter Breakdown Voltage | $V_{CEO}$ | $I_C$ = 1mA, $I_B$ = 0 | 400 | — | — | V |
| DC Current Gain | $h_{FE\ (1)}$ | $V_{CE}$ = 5V, $I_C$ = 1mA | 80 | — | — | |
| | $h_{FE\ (2)}$ | $V_{CE}$ = 5V, $I_C$ = 20mA | 100 | — | 300 | |
| Collector-Emitter Saturation Voltage | $V_{CE\ (sat)}$ | $I_C$ = 20mA, $I_B$ = 0.5mA | — | 0.4 | 1.0 | V |
| Base-Emitter Voltage | $V_{BE}$ | $V_{CE}$ = 5V, $I_C$ = 20mA | — | 0.7 | 1.0 | V |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$ = 10V, $I_E$ = 0, f = 1MHz | — | 4 | — | pF |

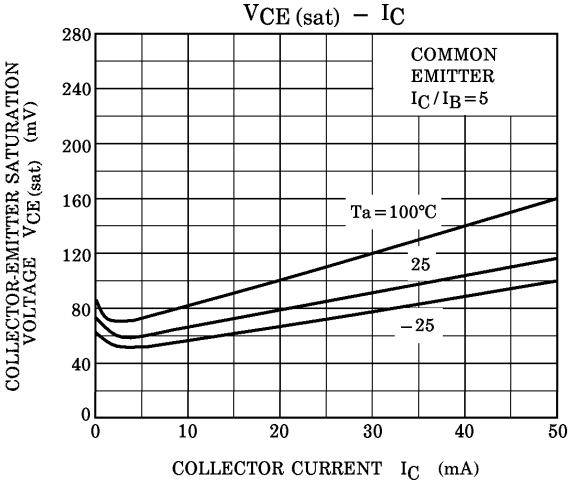
$I_C - V_{CE}$



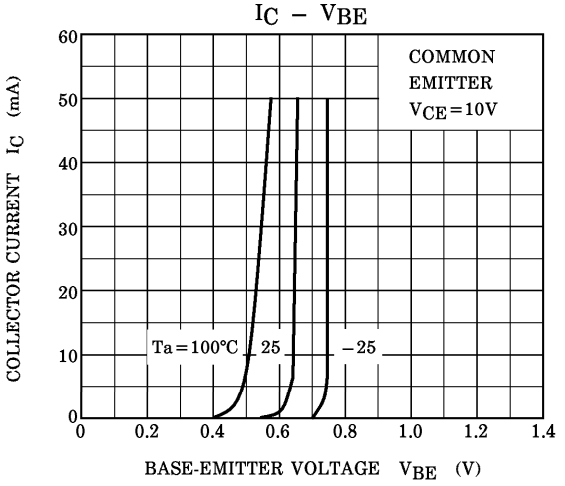

$h_{FE} - I_C$



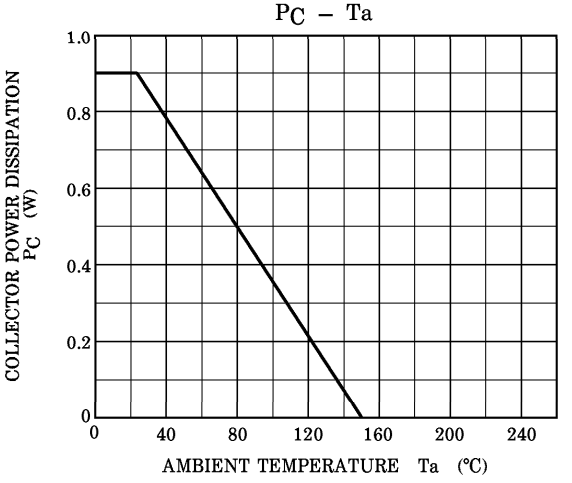

$V_{CE\,(sat)} - I_C$



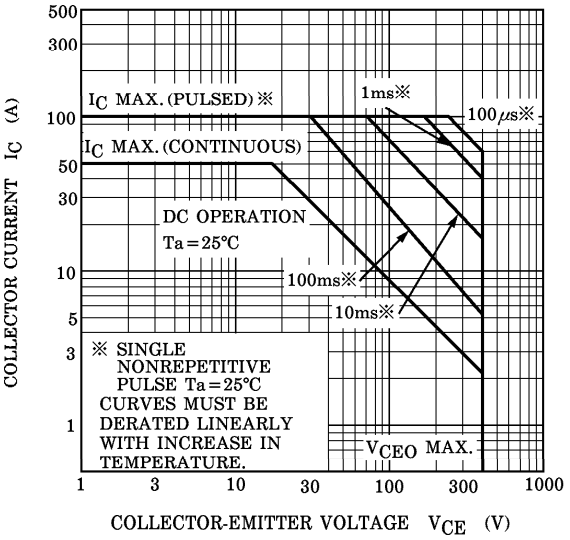

$I_C - V_{BE}$




$P_C - Ta$




SAFE OPERATING AREA



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