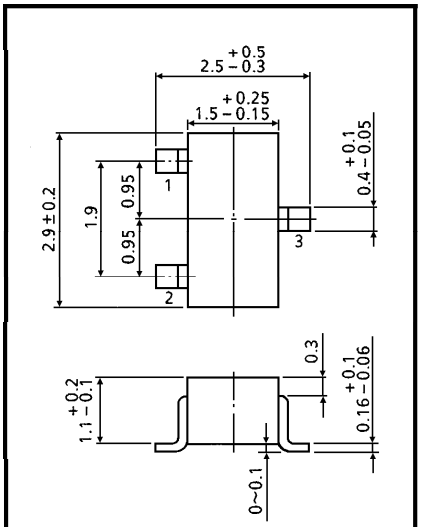
TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

# 2SC4497

HIGH VOLTAGE CONTROL APPLICATIONS

Unit in mm

- High Voltage : $V_{CBO}$ = 300V, $V_{CEO}$ = 300V
- Low Saturation Voltage : $V_{CE\ (sat)}$ = 0.5V (Max.)
- Small Collector Output Capacitance : $C_{ob}$ = 3pF (Typ.)
- Complementary to 2SA1721



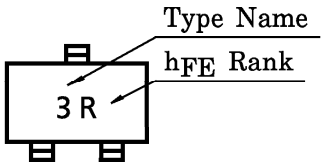

| | |
|---|---|
| JEDEC | TO-236MOD |
| EIAJ | SC-59 |
| TOSHIBA | 2-3F1A |

Weight : 0.012g

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 300 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 300 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 6 | V |
| Collector Current | $I_C$ | 100 | mA |
| Base Current | $I_B$ | 20 | mA |
| Collector Power Dissipation | $P_C$ | 200 | mW |
| Junction Temperature | $T_j$ | 150 | °C |
| Storage Temperature Range | $T_{stg}$ | −55~150 | °C |

MARKING

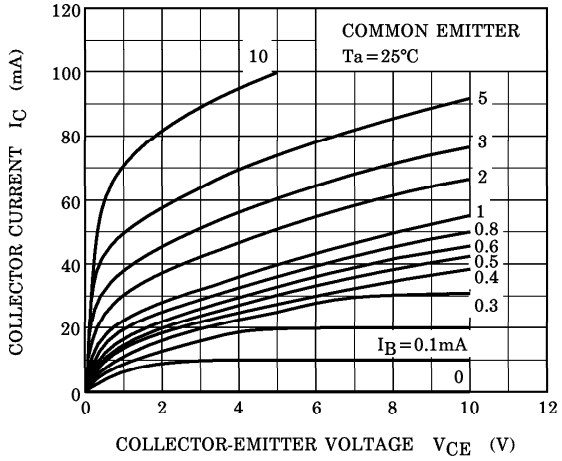


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

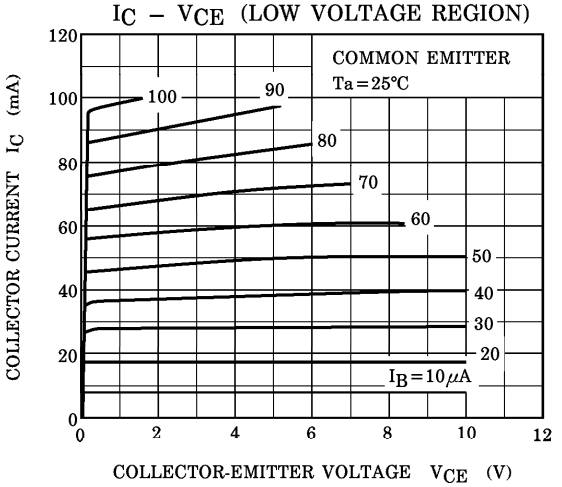
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$ = 300V, $I_E$ = 0 | — | — | 0.1 | μA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$ = 6V, $I_C$ = 0 | — | — | 0.1 | μA |
| Collector-Base Breakdown Voltage | $V_{(BR)\,CBO}$ | $I_C$ = 0.1mA, $I_E$ = 0 | 300 | — | — | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)\,CEO}$ | $I_C$ = 1mA, $I_B$ = 0 | 300 | — | — | V |
| DC Current Gain | $h_{FE\,(1)}$ (Note) | $V_{CE}$ = 10V, $I_C$ = 20mA | 30 | — | 150 | |
| | $h_{FE\,(2)}$ | $V_{CE}$ = 10V, $I_C$ = 1mA | 20 | — | — | |
| Collector-Emitter Saturation Voltage | $V_{CE\,(sat)}$ | $I_C$ = 20mA, $I_B$ = 2mA | — | — | 0.5 | V |
| Base-Emitter Saturation Voltage | $V_{BE\,(sat)}$ | $I_C$ = 20mA, $I_B$ = 2mA | — | — | 1.2 | V |
| Transition Frequency | $f_T$ | $V_{CE}$ = 10V, $I_C$ = 10mA | — | 70 | — | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$ = 20V, $I_E$ = 0, f = 1MHz | — | 3 | 4 | pF |

(Note) : $h_{FE\,(1)}$ Classification R : 30~90, O : 50~150

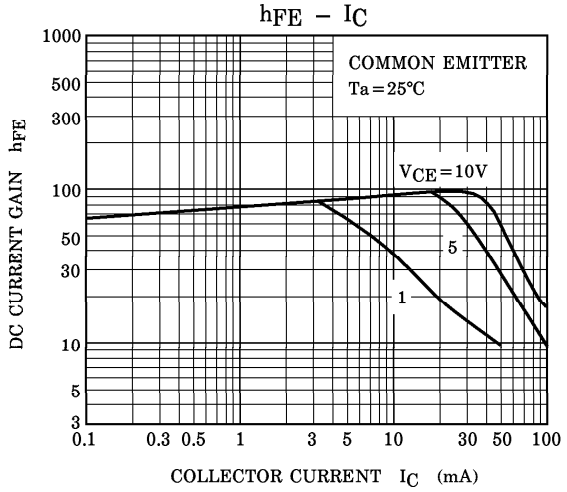
$I_C$ – $V_{CE}$ (LOW VOLTAGE REGION)



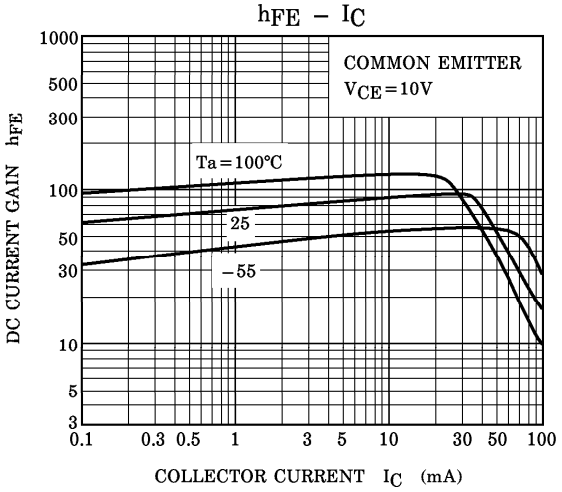

$I_C$ – $V_{CE}$ (LOW VOLTAGE REGION)



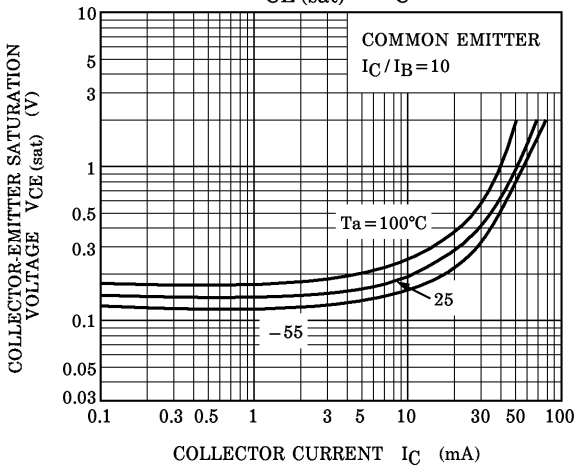

$h_{FE}$ – $I_C$



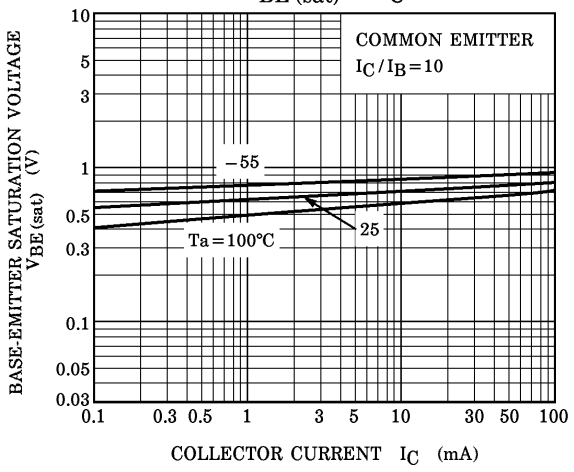

$h_{FE}$ – $I_C$

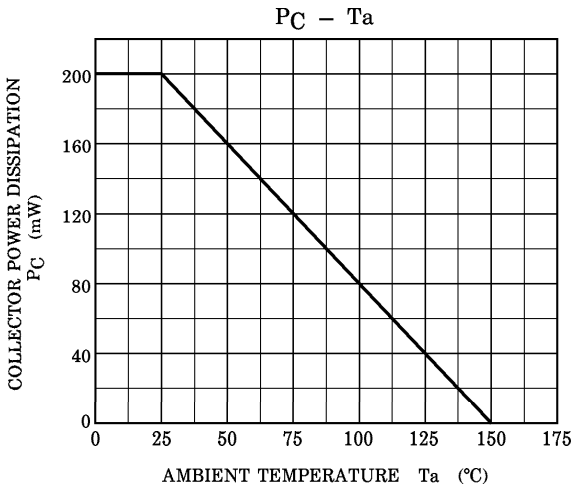



$V_{CE\,(sat)}$ – $I_C$




$V_{BE\,(sat)}$ – $I_C$




$P_C$ – Ta
COLLECTOR POWER DISSIPATION $P_C$ (mW)
200
160
120
80
40
0
0
25
50
75
100
125
150
175
AMBIENT TEMPERATURE Ta (°C)

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