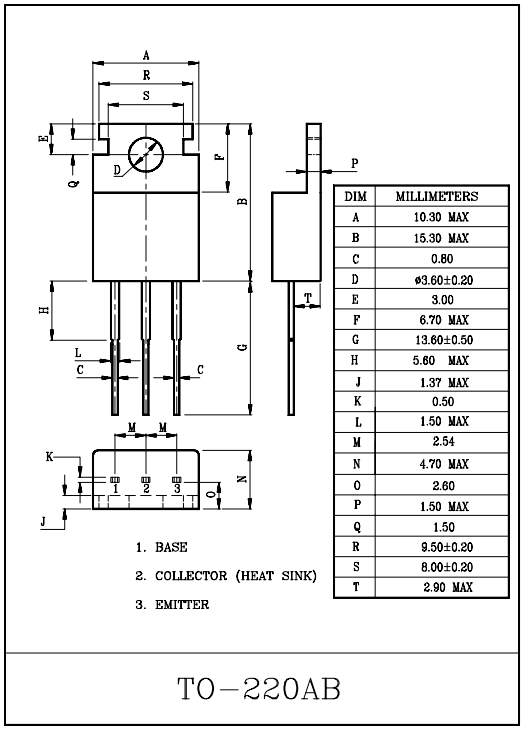
SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.

FEATURES

- Excellent Switching Times.
  : $t_{on}$=0.5μS(Max.), $t_f$=0.3μS(Max.), at $I_C$=2A.
- High Collector Voltage : $V_{CEO}$=500V.



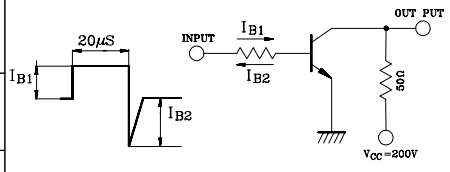

| DIM | MILLIMETERS |
|---|---|
| A | 10.30 MAX |
| B | 15.30 MAX |
| C | 0.80 |
| D | ø3.60±0.20 |
| E | 3.00 |
| F | 6.70 MAX |
| G | 13.60±0.50 |
| H | 5.60 MAX |
| J | 1.37 MAX |
| K | 0.50 |
| L | 1.50 MAX |
| M | 2.54 |
| N | 4.70 MAX |
| O | 2.60 |
| P | 1.50 MAX |
| Q | 1.50 |
| R | 9.50±0.20 |
| S | 8.00±0.20 |
| T | 2.90 MAX |

TO-220AB

MAXIMUM RATINGS (Ta=25℃)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|---|---|---|---|---|
| Collector-Base Voltage | | $V_{CBO}$ | 800 | V |
| Collector-Emitter Voltage | | $V_{CEO}$ | 500 | V |
| Emitter-Base Voltage | | $V_{EBO}$ | 7 | V |
| Collector Current | DC | $I_C$ | 3 | A |
| | Pulse | $I_{CP}$ | 6 | |
| Base Current | | $I_B$ | 1 | A |
| Collector Power Dissipation (Tc=25℃) | | $P_C$ | 40 | W |
| Junction Temperature | | $T_j$ | 150 | ℃ |
| Storage Temperature Range | | $T_{stg}$ | -55~150 | ℃ |

ELECTRICAL CHARACTERISTICS (Ta=25℃)

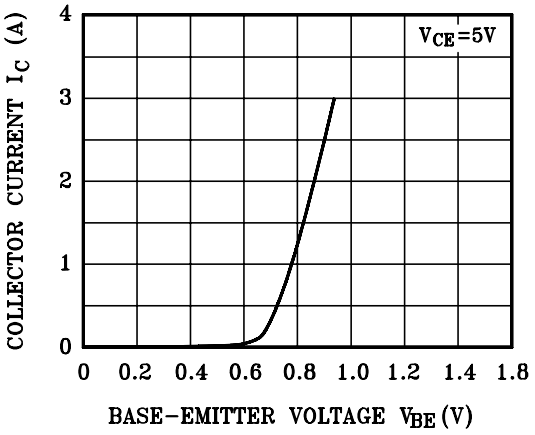
| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|---|
| Collector Cut-off Current | | $I_{CBO}$ | $V_{CB}$=500V, $I_E$=0 | - | - | 10 | μA |
| Emitter Cut-off Current | | $I_{EBO}$ | $V_{EB}$=5V, $I_C$=0 | - | - | 10 | μA |
| Collector-Emitter Sustaning Voltage | | $V_{CEX(SUS)}$ | $I_C$=1.5A, $I_{B1}$=-$I_{B2}$=0.6A L=2mH, Clamped | 500 | - | - | V |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C$=1.5A, $I_B$=0.3A | - | - | 1 | V |
| Base-Emitter Saturation Voltage | | $V_{BE(sat)}$ | $I_C$=1.5A, $I_B$=0.3A | - | - | 1.5 | V |
| DC Current Gain | | $h_{FE}$ (1) (Note) | $V_{CE}$=5V, $I_C$=0.3A | 15 | - | 50 | |
| | | $h_{FE}$ (2) | $V_{CE}$=5V, $I_C$=1.5A | 8 | - | - | |
| Collector Output Capacitance | | $C_{ob}$ | $V_{CB}$=10V, f=1MHz | - | 50 | - | pF |
| Transition Frequency | | $f_T$ | $V_{CE}$=10V, $I_C$=0.3A | - | 18 | - | MHz |
| Switching Time | Turn On Time | $t_{on}$ |  | - | - | 0.5 | μS |
| | Storage Time | $t_{stg}$ | | - | - | 3 | |
| | Fall Time | $t_f$ | | - | - | 0.3 | |



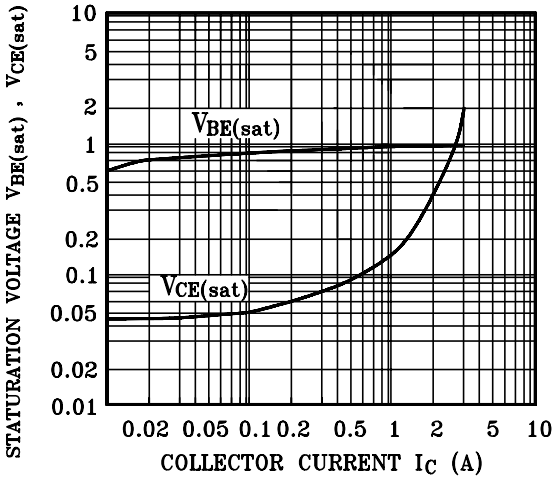
$I_{B1}$=0.4A, $I_{B2}$=-0.8A
DUTY CYCLE ≤ 1%

Note : $h_{FE}$ (1) Classification R:15~30, O:20~40, Y:30~50

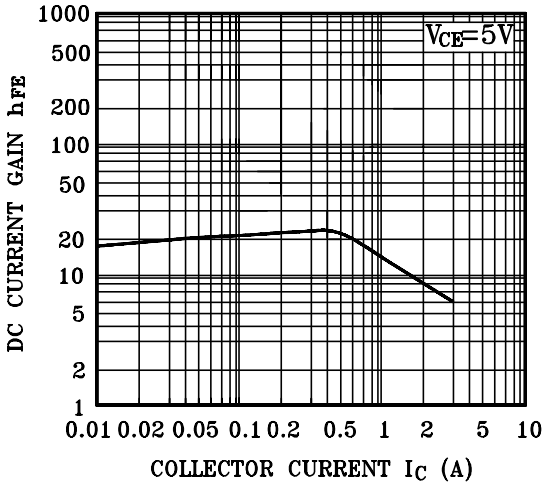
$I_C$ – $V_{BE}$



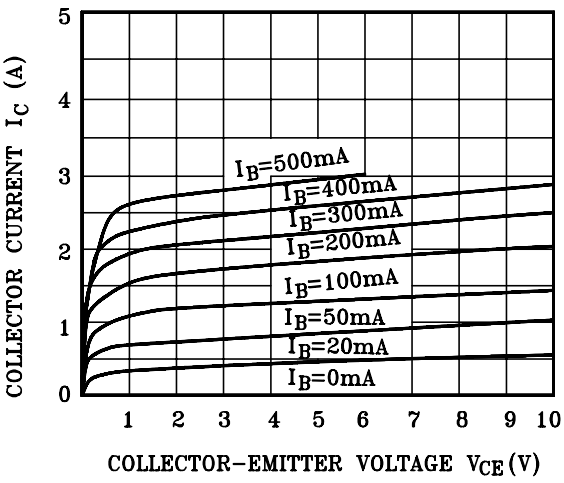

$V_{CE(sat)}$, $V_{BE(sat)}$ – $I_C$



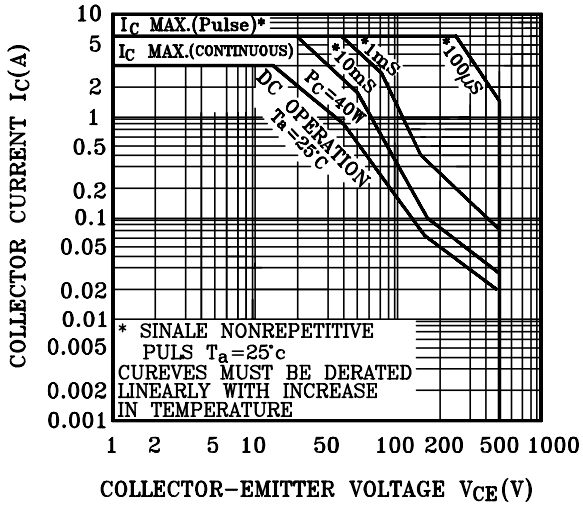

$h_{FE}$ –$I_C$



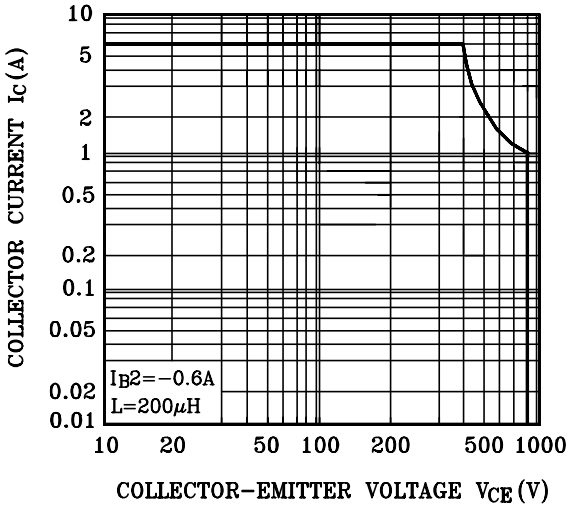

$I_C$– $V_{CE}$



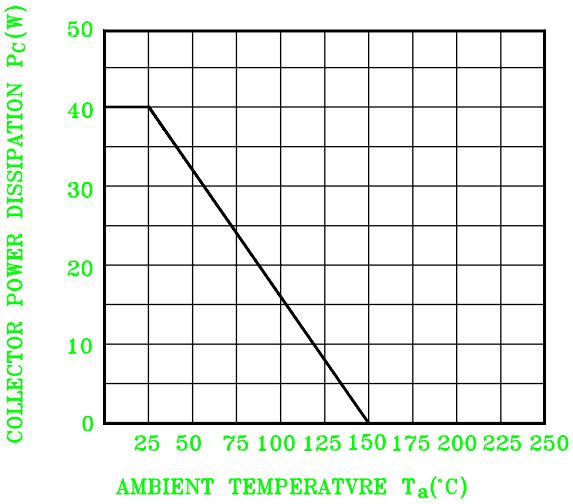

SAFE OPERATING AREA




REVERSE BIAS SAFE OPERATING AREA



$P_C - T_a$




SWITCHING CHARACTERISTICS

