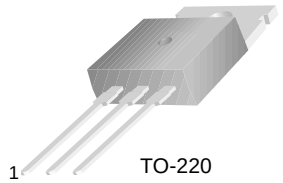
FAIRCHILD
SEMICONDUCTOR TM

# BUT12/12A

## High Voltage Power Switching Applications




TO-220

1.Base 2.Collector 3.Emitter

## NPN Silicon Transistor

### Absolute Maximum Ratings $T_C$=25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | | |
| | : BUT12 | 850 | V |
| | : BUT12A | 1000 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | | |
| | : BUT12 | 400 | V |
| | : BUT12A | 450 | V |
| $I_C$ | Collector Current (DC) | 8 | A |
| $I_{CP}$ | *Collector Current (Pulse) | 20 | A |
| $I_B$ | Base Current | 4 | A |
| $P_C$ | Collector Dissipation ($T_C$=25°C) | 100 | W |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | - 65 ~ 175 | °C |

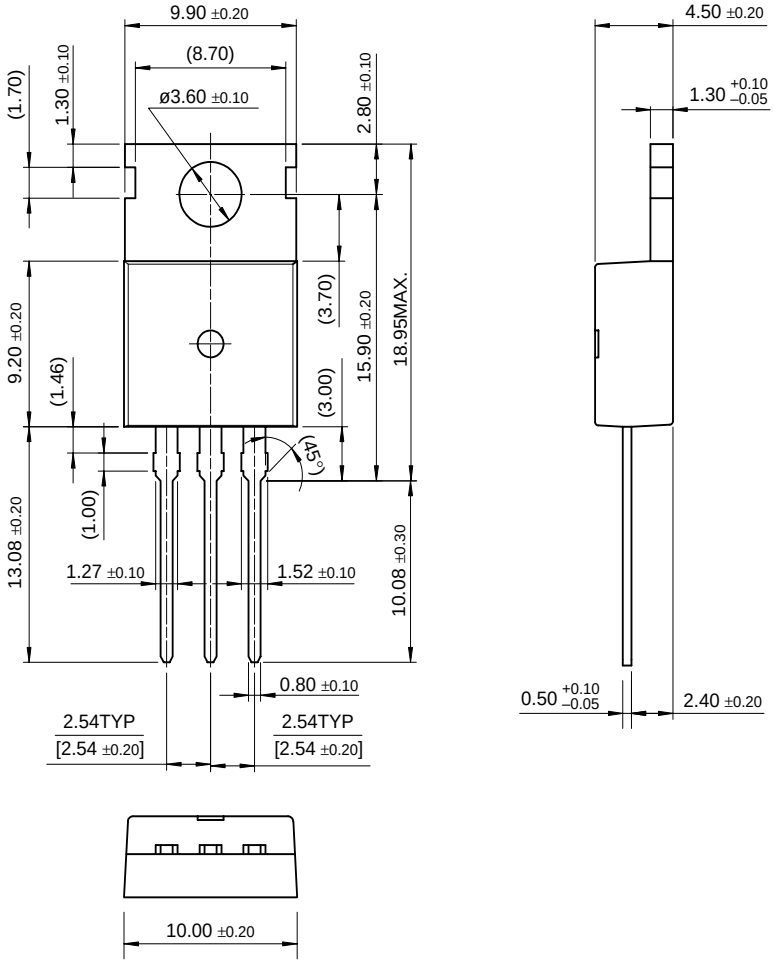
### Electrical Characteristics $T_C$=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| $V_{CEO}$(sus) | * Collector-Emitter Sustaining Voltage | $I_C$ = 100mA, L = 25mH | 400 | | | V |
| $I_{CES}$ | Collector Cut-off Current | $V_{CE}$ = $V_{CES}$, $V_{BE}$ = 0 | | | 1 | mA |
| $I_{EBO}$ | Emitter Cut-off Current | $V_{BE}$ = 9V, $I_C$ = 0 | | | 10 | mA |
| $V_{CE}$(sat) | * Collector-Emitter Saturation Voltage | $I_C$ = 6A, $I_B$ = 1.2A | | | 1.5 | V |
| $V_{BE}$(sat) | * Base-Emitter Saturation Voltage | $I_C$ = 6A, $I_B$ = 1.2A | | | 1.5 | V |
| $t_{ON}$ | Turn ON Time | $V_{CC}$ = 250V, $I_C$ = 6A<br>$I_{B1}$ = - $I_{B2}$ = 1.2A<br>$R_L$ = 41.6Ω | | | 1 | µs |
| $t_{STG}$ | Storage Time | | | | 4 | µs |
| $t_F$ | Fall Time | | | | 0.8 | µs |

* Pulsed Test: PW = 300µs, duty cycle = 1.5%

## Package Demensions

# TO-220




Dimensions in Millimeters

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