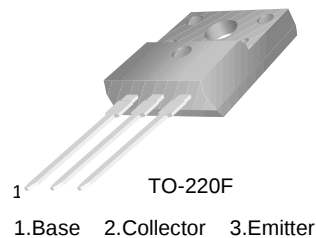


## FJPF9020

FJPF9020

### Monolithic Construction With Built In Base-Emitter Shunt Resistors

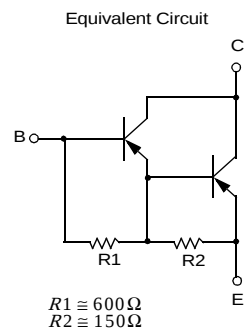
- High Collector-Base Breakdown Voltage :  $BV_{CBO} = -550V$
- High DC Current Gain :  $h_{FE} = 550$  @  $V_{CE} = -4V$ ,  $I_C = -1A$  (Typ.)
- Industrial Use



### PNP Epitaxial Darlington Transistor

#### Absolute Maximum Ratings $T_C = 25^\circ C$ unless otherwise noted

| Symbol    | Parameter                                    | Value      | Units      |
|-----------|----------------------------------------------|------------|------------|
| $V_{CBO}$ | Collector-Base Voltage                       | - 550      | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                    | - 550      | V          |
| $V_{EBO}$ | Emitter-Base Voltage                         | - 6        | V          |
| $I_C$     | Collector Current (DC)                       | - 2        | A          |
| $I_{CP}$  | Collector Current (Pulse)                    | - 4        | A          |
| $P_C$     | Collector Dissipation ( $T_C = 25^\circ C$ ) | 15         | W          |
| $T_J$     | Junction Temperature                         | 150        | $^\circ C$ |
| $T_{STG}$ | Storage Temperature                          | - 55 ~ 150 | $^\circ C$ |



#### Electrical Characteristics $T_C = 25^\circ C$ unless otherwise noted

| Symbol        | Parameter                            | Test Condition                | Min.  | Typ. | Max.  | Units   |
|---------------|--------------------------------------|-------------------------------|-------|------|-------|---------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C = -100\mu A$ , $I_E = 0$ | - 550 |      |       | V       |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = -500\mu A$ , $I_B = 0$ | - 550 |      |       | V       |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = -200mA$ , $I_C = 0$    | -6    |      |       | V       |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CE} = -550V$ , $I_E = 0$  |       |      | -100  | $\mu A$ |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{EB} = -6V$ , $I_C = 0$    |       | -10  | -20   | mA      |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = -4V$ , $I_C = -1A$  | 400   | 550  | 700   |         |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -1A$ , $I_B = -20mA$   |       | -1.0 | - 1.5 | V       |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C = -1A$ , $I_B = -20mA$   |       | -1.5 | - 2.0 | V       |

## Typical Characteristics

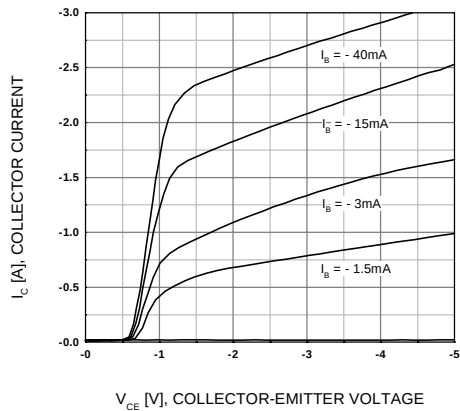


Figure 1. Static Characteristic

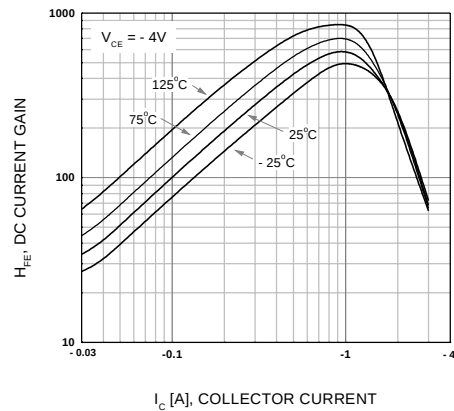


Figure 2. DC current Gain

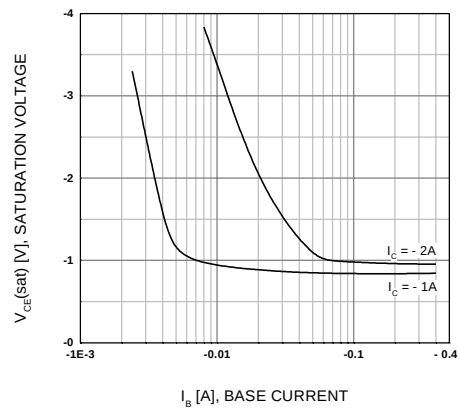


Figure 3.  $V_{ce(sat)}$  vs.  $I_b$  Characteristics

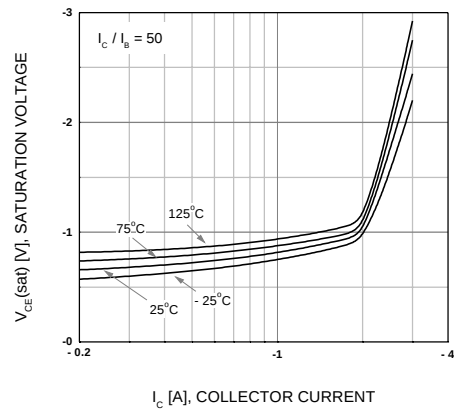


Figure 4. Collector-Emitter Saturation Voltage

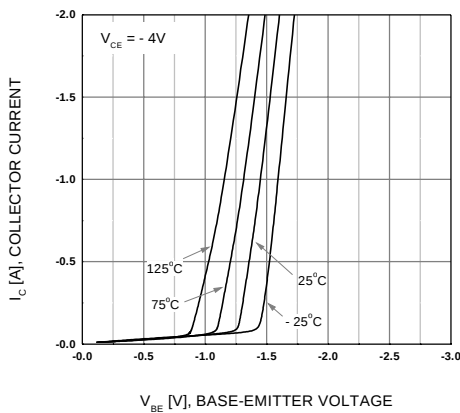


Figure 5. Base-Emitter On Voltage

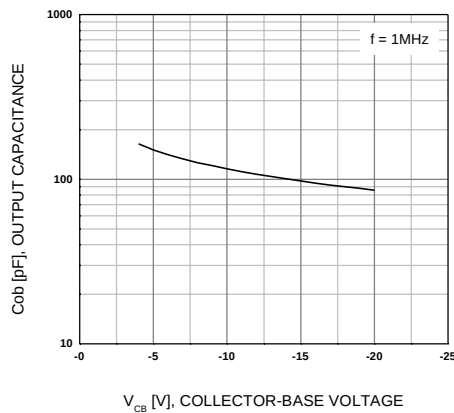


Figure 6. Output Capacitance

## Typical Characteristics (Continued)

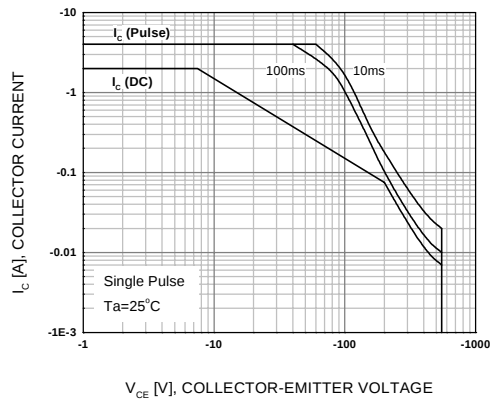


Figure 7. Forward Bias Safe Operating Area

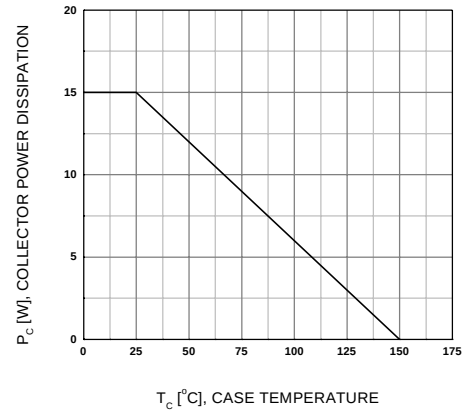
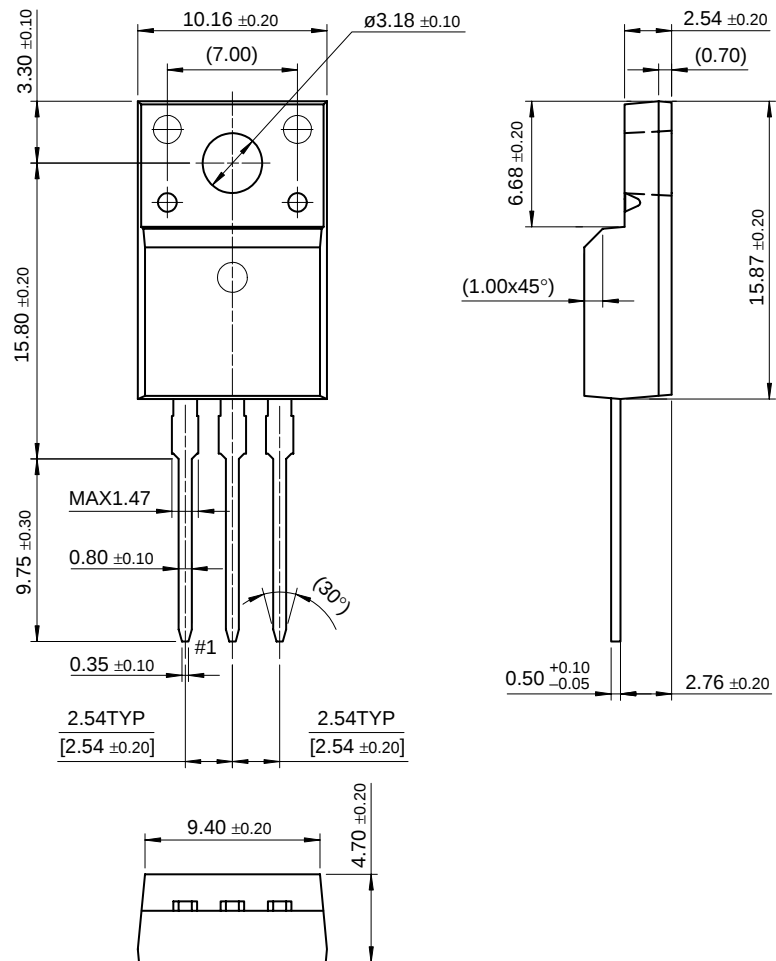


Figure 8. Power Derating

# Package Dimensions

FJPF9020

## TO-220F



Dimensions in Millimeters

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| Bottomless <sup>TM</sup>          | FRFET <sup>TM</sup>              | OPTOPLANAR <sup>TM</sup>         | SPM <sup>TM</sup>            |                   |
| CoolFET <sup>TM</sup>             | GlobalOptoisolator <sup>TM</sup> | PACMAN <sup>TM</sup>             | Stealth <sup>TM</sup>        |                   |
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| DOVE <sup>TM</sup>                | HiSeC <sup>TM</sup>              | Power247 <sup>TM</sup>           | SuperSOT <sup>TM</sup> -6    |                   |
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| EnSigna <sup>TM</sup>             | LittleFET <sup>TM</sup>          | QS <sup>TM</sup>                 | TinyLogic <sup>TM</sup>      |                   |
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