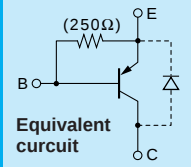


Built-in Diode at C-E  
Low  $V_{CE}(\text{sat})$

# 2SA1568



Silicon PNP Epitaxial Planar Transistor (Complement to type 2SC4065)

Application : DC Motor Driver, Chopper Regulator and General Purpose

## Absolute maximum ratings (Ta=25°C)

| Symbol    | 2SA1568     | Unit |
|-----------|-------------|------|
| $V_{CB0}$ | -60         | V    |
| $V_{CE0}$ | -60         | V    |
| $V_{EB0}$ | -6          | V    |
| $I_C$     | ±12         | A    |
| $I_B$     | -3          | A    |
| $P_C$     | 35(Tc=25°C) | W    |
| $T_j$     | 150         | °C   |
| $T_{stg}$ | -55 to +150 | °C   |

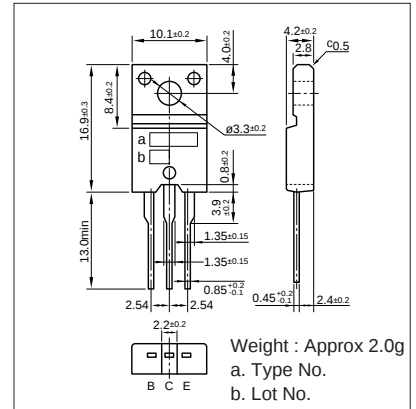
## Electrical Characteristics (Ta=25°C)

| Symbol        | Conditions                  | 2SA1568  | Unit |
|---------------|-----------------------------|----------|------|
| $I_{CBO}$     | $V_{CB} = -60V$             | -100max  | μA   |
| $I_{EBO}$     | $V_{EB} = -6V$              | -60max   | mA   |
| $V_{(BR)CEO}$ | $I_C = -25mA$               | -60min   | V    |
| $h_{FE}$      | $V_{CE} = -1V, I_C = -6A$   | 50min    |      |
| $V_{CE(sat)}$ | $I_C = -6A, I_B = -0.3A$    | -0.35max | V    |
| $V_{FEC}$     | $I_{ECO} = -10A$            | -2.5max  | V    |
| $f_T$         | $V_{CE} = -12V, I_E = 0.5A$ | 40typ    | MHz  |
| $COB$         | $V_{CB} = -10V, f = 1MHz$   | 330typ   | pF   |

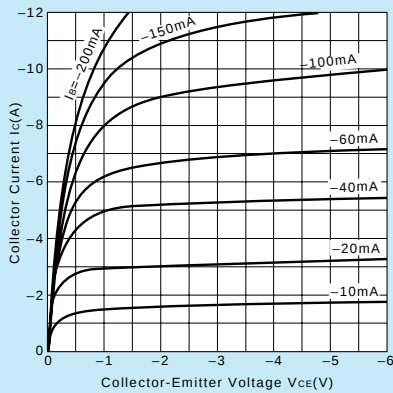
## Typical Switching Characteristics (Common Emitter)

| $V_{CC}$<br>(V) | $R_L$<br>(Ω) | $I_C$<br>(A) | $V_{BB1}$<br>(V) | $V_{BB2}$<br>(V) | $I_{B1}$<br>(mA) | $I_{B2}$<br>(mA) | $t_{on}$<br>(μs) | $t_{stg}$<br>(μs) | $t_f$<br>(μs) |
|-----------------|--------------|--------------|------------------|------------------|------------------|------------------|------------------|-------------------|---------------|
| -24             | 4            | -6           | -10              | 5                | -120             | 120              | 0.4typ           | 0.4typ            | 0.2typ        |

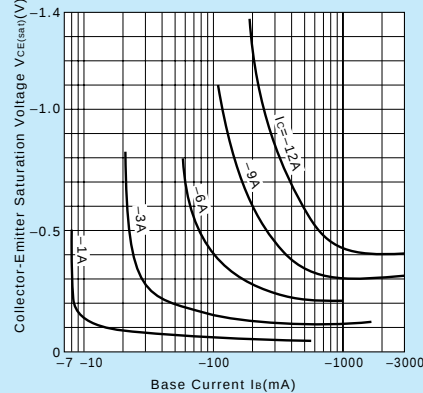
## External Dimensions FM20 (TO220F)



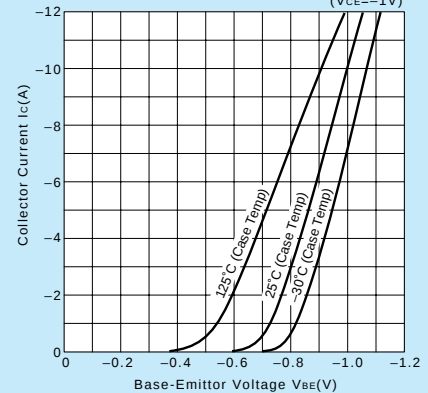
$I_C$ - $V_{CE}$  Characteristics (Typical)



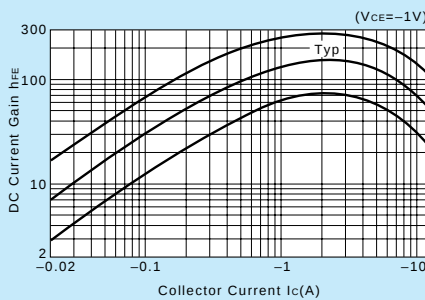
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



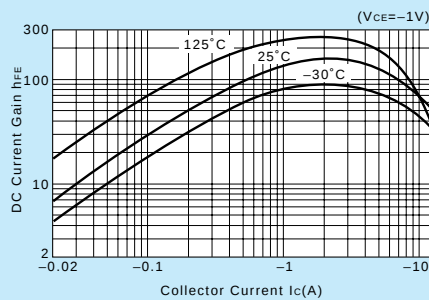
$I_C$ - $V_{BE}$  Temperature Characteristics (Typical)



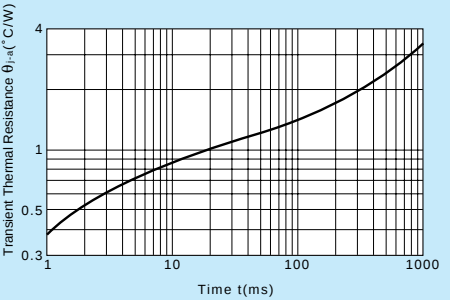
$h_{FE}$ - $I_C$  Characteristics (Typical)



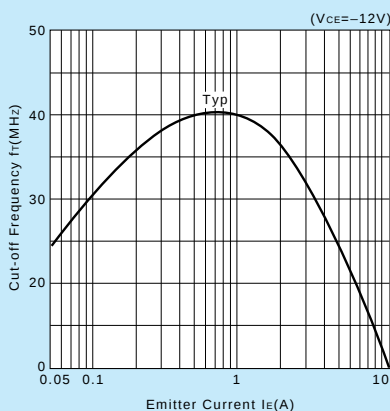
$h_{FE}$ - $I_C$  Temperature Characteristics (Typical)



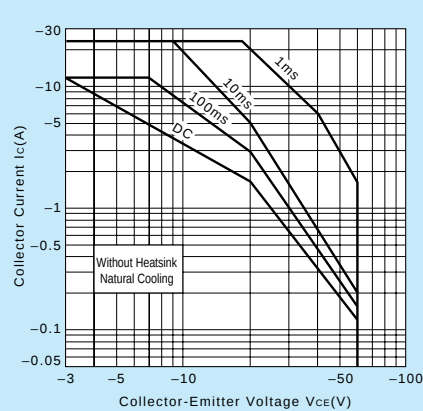
$\theta_{JA}$ -t Characteristics



$f_T$ - $I_E$  Characteristics (Typical)



Safe Operating Area (Single Pulse)



$P_C$ - $T_a$  Derating

