

High hFE
LOW VCE (sat)

2SC3852/3852A

Silicon NPN Epitaxial Planar Transistor

Application : Driver for Solenoid and Motor, Series Regulator and General Purpose

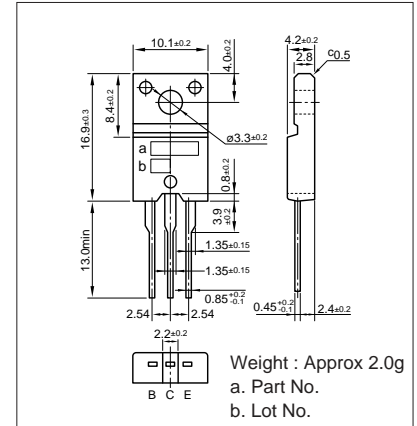
■ Absolute maximum ratings (Ta=25°C)

| Symbol | Ratings | | Unit |
|------------------|--------------------------|----------|------|
| | 2SC3852 | 2SC3852A | |
| V _{CB0} | 80 | 100 | V |
| V _{CE0} | 60 | 80 | V |
| V _{EBO} | 6 | | V |
| I _C | 3 | | A |
| I _B | 1 | | A |
| P _C | 25(T _C =25°C) | | W |
| T _J | 150 | | °C |
| T _{stg} | -55 to +150 | | °C |

■ Electrical Characteristics (Ta=25°C)

| Symbol | Conditions | Ratings | | Unit |
|----------------------|---------------------------------------------|---------|----------|------|
| | | 2SC3852 | 2SC3852A | |
| I _{CBO} | V _{CB} = | 10max | | μA |
| V _{CE0} | V _{CB} = | 80 | 100 | V |
| I _{EBO} | V _{EB} =6V | 100max | | μA |
| V _{(BR)CEO} | I _C =25mA | 60min | 80min | V |
| h _{FE} | V _{CE} =4V, I _C =0.5A | 500min | | |
| V _{CE(sat)} | I _C =2A, I _B =50mA | 0.5max | | V |
| f _T | V _{CE} =12V, I _E =-0.2A | 15typ | | MHz |
| C _{OB} | V _{CB} =10V, f=1MHz | 50typ | | pF |

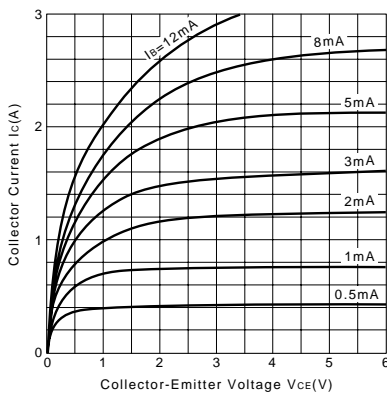
External Dimensions FM20(TO220F)



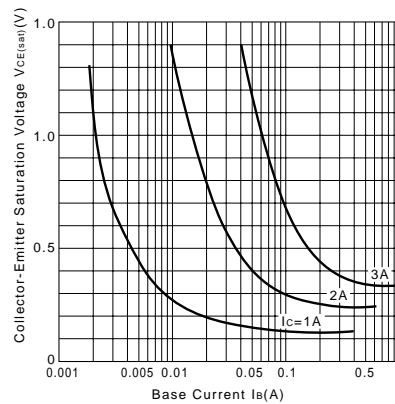
■ Typical Switching Characteristics (Common Emitter)

| V _{CC} (V) | R _L (Ω) | I _C (A) | V _{BB1} (V) | V _{BB2} (V) | I _{B1} (mA) | I _{B2} (mA) | t _{on} (μs) | t _{stg} (μs) | t _f (μs) |
|---------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|---------------------|
| 20 | 20 | 1.0 | 10 | -5 | 15 | -30 | 0.8typ | 3.0typ | 1.2typ |

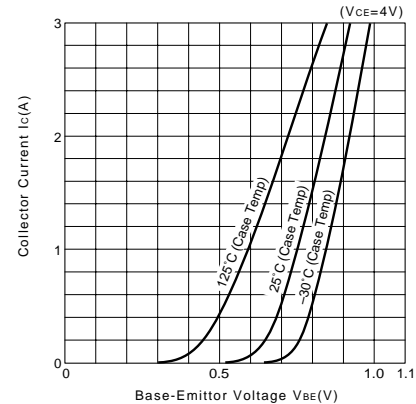
I_C-V_{CE} Characteristics (Typical)



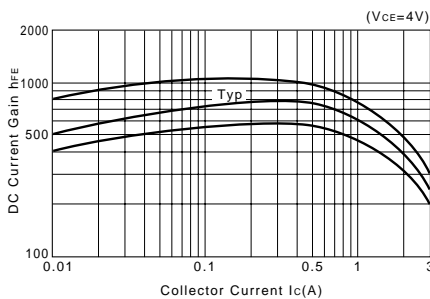
V_{CE(sat)}-I_B Characteristics (Typical)



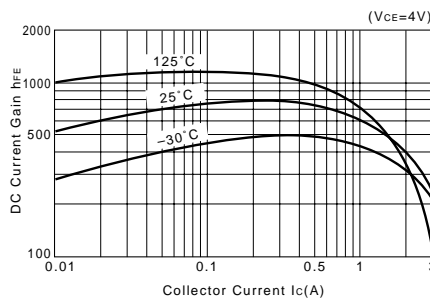
I_C-V_{BE} Temperature Characteristics (Typical)



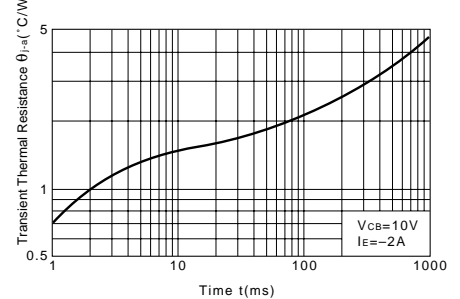
h_{FE}-I_C Characteristics (Typical)



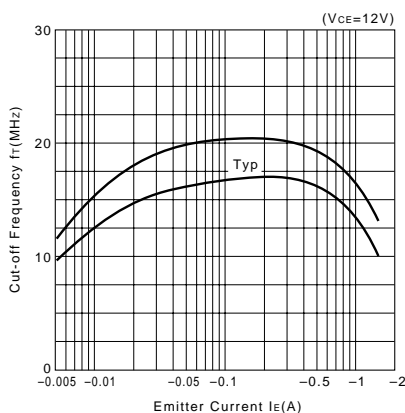
h_{FE}-I_C Temperature Characteristics (Typical)



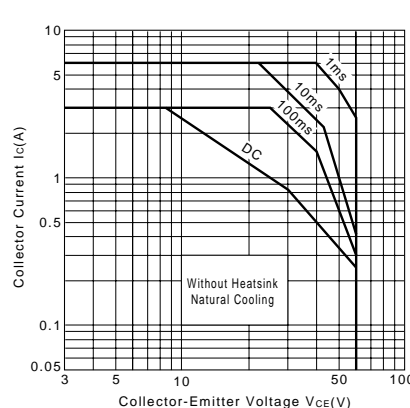
θ_{j-a}-t Characteristics



f_T-I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



P_C-T_a Derating

