

2SC4304

Silicon NPN Triple Diffused Planar Transistor (High Voltage High Speed Switching Transistor)

Application : Switching Regulator and General Purpose

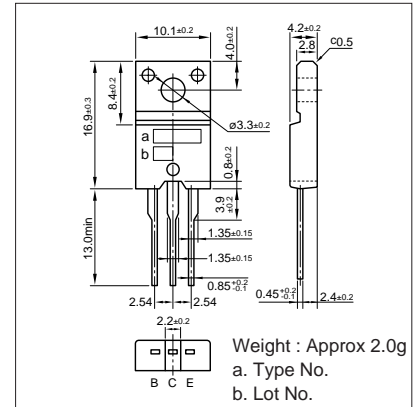
Absolute maximum ratings (Ta=25°C)

| Symbol | 2SC4304 | Unit |
|------------------|-------------|------|
| V _{CB0} | 900 | V |
| V _{CEO} | 800 | V |
| V _{EB0} | 7 | V |
| I _C | 3(Pulse6) | A |
| I _B | 1.5 | 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 | 2SC4304 | Unit |
|----------------------|---|----------|------|
| I _{CB0} | V _{CB} =800V | 100max | μA |
| I _{EB0} | V _{EB} =7V | 100max | μA |
| V(BR) _{CEO} | I _C =10mA | 800min | V |
| h _{FE} | V _{CE} =4V, I _C =0.7A | 10 to 30 | |
| V _{CE(sat)} | I _C =0.7A, I _B =0.14A | 0.5max | V |
| V _{BE(sat)} | I _C =0.7A, I _B =0.14A | 1.2max | V |
| f _r | V _{CE} =12V, I _E =-0.3A | 15typ | MHz |
| COB | V _{CB} =10V, f=1MHz | 50typ | pF |

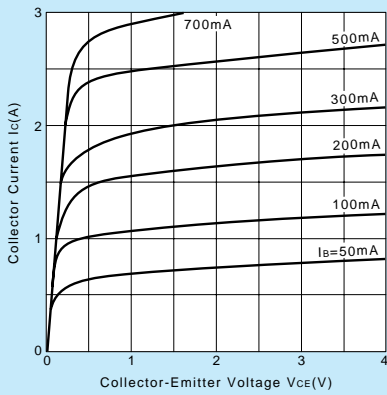
External Dimensions FM20(TO220F)



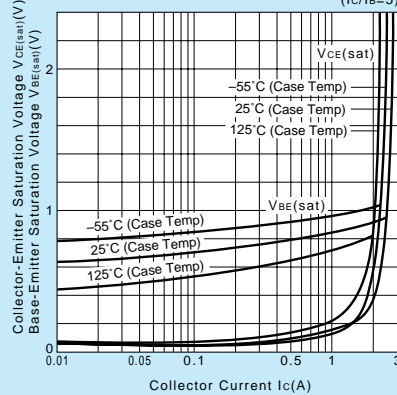
Typical Switching Characteristics (Common Emitter)

| V _{CC} (V) | R _L (Ω) | I _C (A) | V _{BB1} (V) | V _{BB2} (V) | I _{B1} (A) | I _{B2} (A) | t _{on} (μs) | t _{stg} (μs) | t _f (μs) |
|---------------------|--------------------|--------------------|----------------------|----------------------|---------------------|---------------------|----------------------|-----------------------|---------------------|
| 250 | 357 | 0.7 | 10 | -5 | 0.1 | -0.35 | 0.7max | 4.0max | 0.7max |

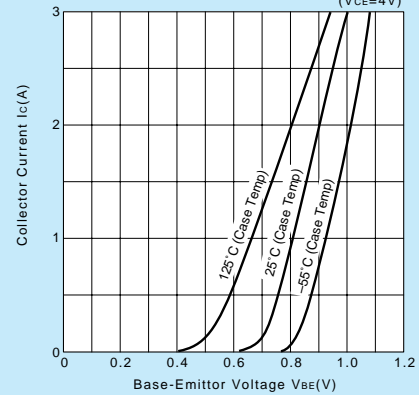
I_C-V_{CE} Characteristics (Typical)



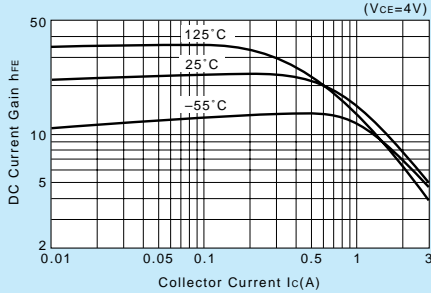
V_{CE(sat)}, V_{BE(sat)}-I_C Temperature Characteristics (Typical)



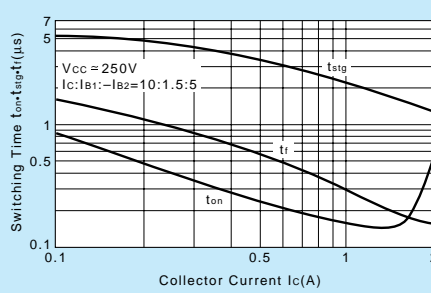
I_C-V_{BE} Temperature Characteristics (Typical)



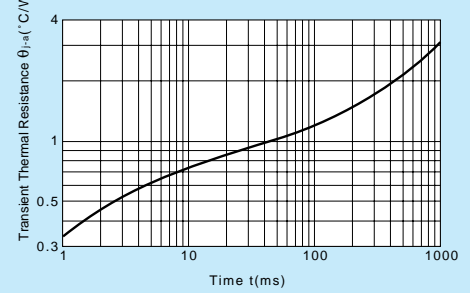
h_{FE}-I_C Characteristics (Typical)



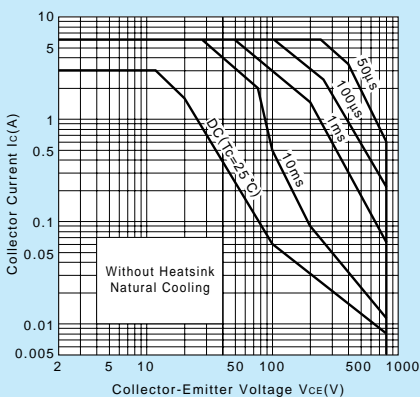
t_{on}*t_{stg}*t_f-I_C Characteristics (Typical)



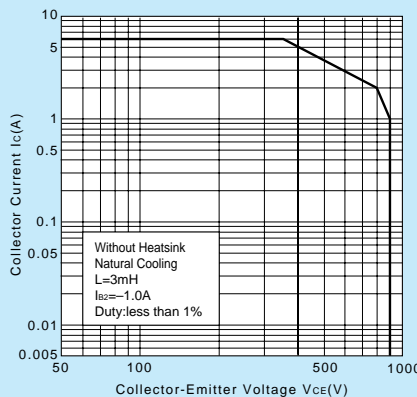
θ_{j-a}-t Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



P_C-T_a Derating

