

2SC5071

Silicon NPN Triple Diffused Planar Transistor (High Voltage and High Speed Switching Transistor) Application : Switching Regulator and General Purpose

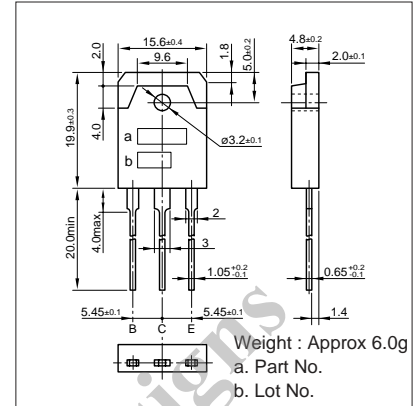
Absolute maximum ratings (Ta=25°C)

| Symbol | Ratings | Unit |
|------------------|---------------------------|------|
| V _{CB0} | 500 | V |
| V _{CEO} | 400 | V |
| V _{EB0} | 10 | V |
| I _C | 12(Pulse24) | A |
| I _B | 4 | A |
| P _C | 100(T _C =25°C) | W |
| T _J | 150 | °C |
| T _{stg} | -55 to +150 | °C |

Electrical Characteristics (Ta=25°C)

| Symbol | Conditions | Ratings | Unit |
|----------------------|---|---------|------|
| I _{CB0} | V _{CB} =500V | 100max | μA |
| I _{EB0} | V _{EB} =10V | 100max | μA |
| V _{(BR)CEO} | I _C =25mA | 400min | V |
| h _{FE} | V _{CE} =4V, I _C =7A | 10to30 | |
| V _{CE(sat)} | I _C =7A, I _B =1.4A | 0.5max | V |
| V _{BE(sat)} | I _C =7A, I _B =1.4A | 1.3max | V |
| f _r | V _{CE} =12V, I _E =-1A | 10typ | MHz |
| COB | V _{CB} =10V, f=1MHz | 105typ | pF |

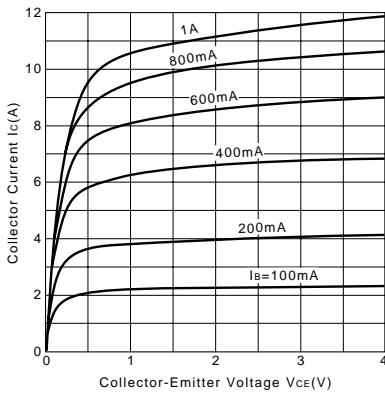
External Dimensions MT-100(TO3P)



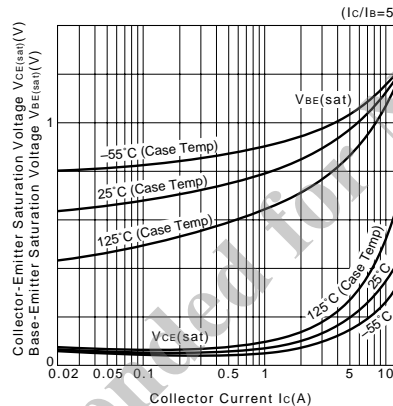
Typical Switching Characteristics (Common Emitter)

| 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) |
|---------------------|--------------------|--------------------|----------------------|----------------------|---------------------|---------------------|----------------------|-----------------------|---------------------|
| 200 | 28.5 | 7 | 10 | -5 | 0.7 | -1.4 | 1.0max | 3.0max | 0.5max |

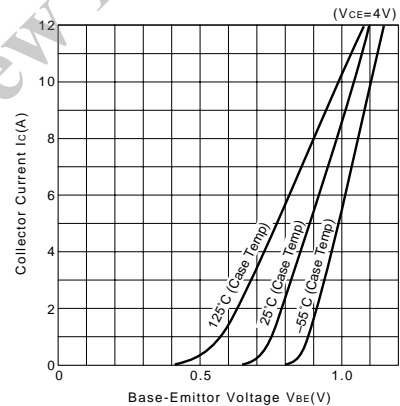
I_C-V_{CE} Characteristics (Typical)



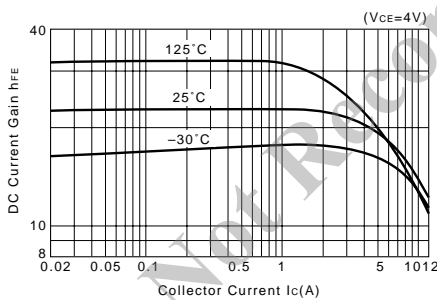
V_{CE(sat)}, V_{BE(sat)}-I_C Temperature Characteristics (Typical)



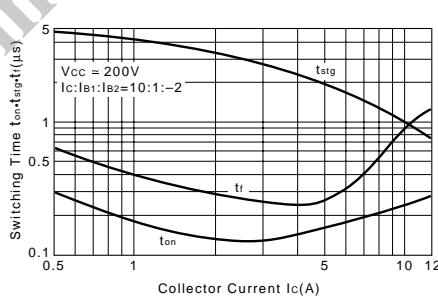
I_C-V_{BE} Temperature Characteristics (Typical)



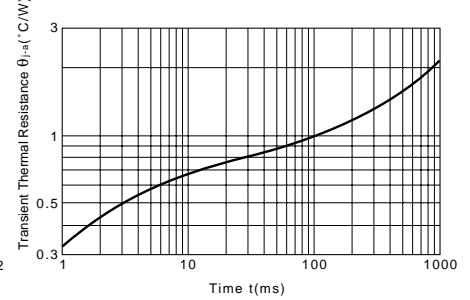
h_{FE}-I_C Characteristics (Typical)



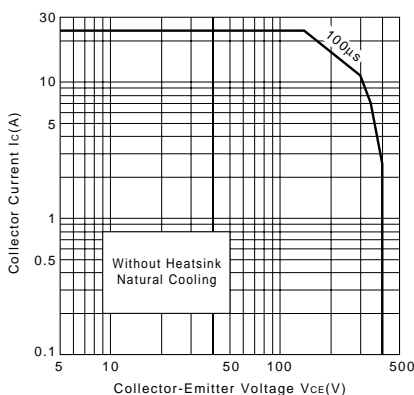
t_{on}, t_{stg}, t_f-I_C Characteristics (Typical)



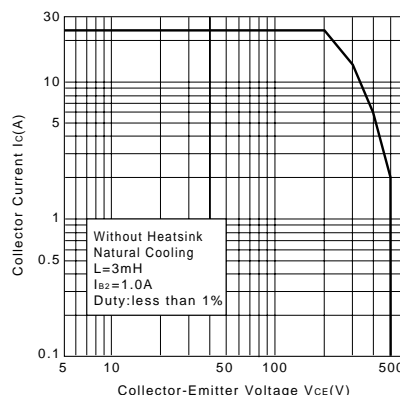
θ_{j-a}-t Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



P_C-T_a Derating

