

2SC4434

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

Application : Switching Regulator, Lighting Inverter, and General Purpose

Absolute maximum ratings (Ta=25°C)

| Symbol | 2SC4434 | Unit |
|------------------|---------------------------|------|
| V _{CB0} | 500 | V |
| V _{CE0} | 400 | V |
| V _{EB0} | 10 | V |
| I _C | 15(Pulse30) | A |
| I _B | 5 | A |
| P _C | 120(T _C =25°C) | W |
| T _j | 150 | °C |
| T _{stg} | -55 to +150 | °C |

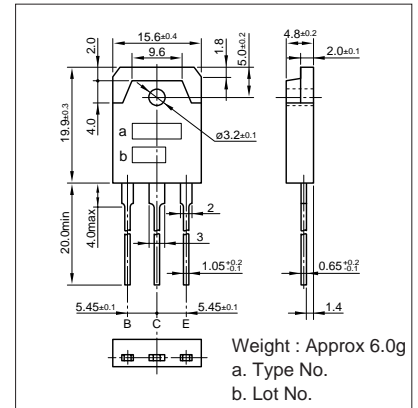
Electrical Characteristics (Ta=25°C)

| Symbol | Conditions | 2SC4434 | 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 =8A | 10to25 | |
| V _{CE(sat)} | I _C =8A, I _B =1.6A | 0.7max | V |
| V _{BE(sat)} | I _C =8A, I _B =1.6A | 1.3max | V |
| f _r | V _{CE} =12V, I _E =-1.5A | 10typ | MHZ |
| COB | V _{CB} =10V, f=1MHZ | 135typ | pF |

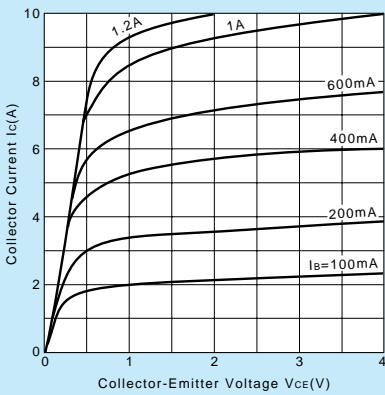
Typical Switching Characteristics (Common Emitter)

| 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 _r (μs) |
|---------------------|--------------------|--------------------|----------------------|----------------------|---------------------|---------------------|----------------------|-----------------------|---------------------|
| 200 | 25 | 8 | 10 | -5 | 1.6 | -3.2 | 0.5max | 2.0max | 0.15max |

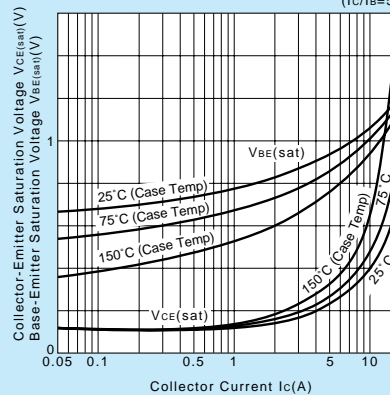
External Dimensions MT-100(TO3P)



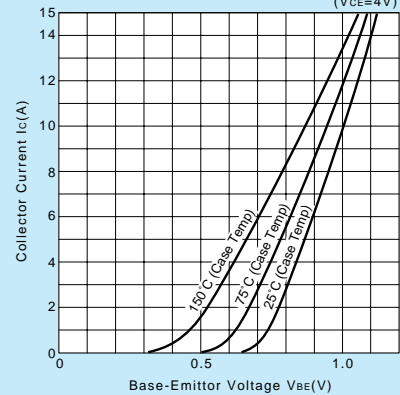
I_C-V_{CE} Characteristics (Typical)



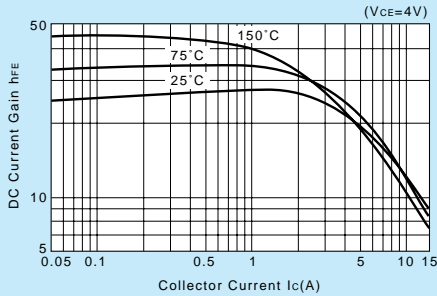
V_{CE(sat)}, V_{BE(sat)}-I_C Temperature Characteristics (Typical)



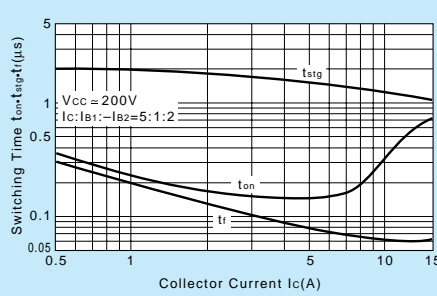
I_C-V_{BE} Temperature Characteristics (Typical)



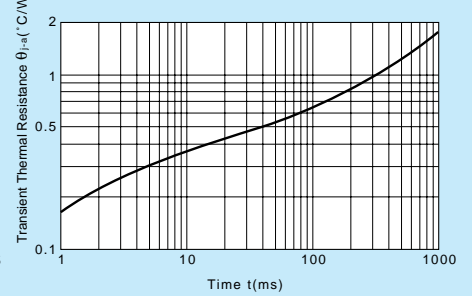
h_{FE}-I_C Temperature Characteristics (Typical)



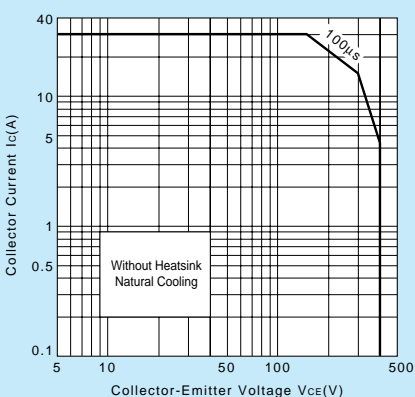
t_{on}*t_{stg}*t_r-I_C Characteristics (Typical)



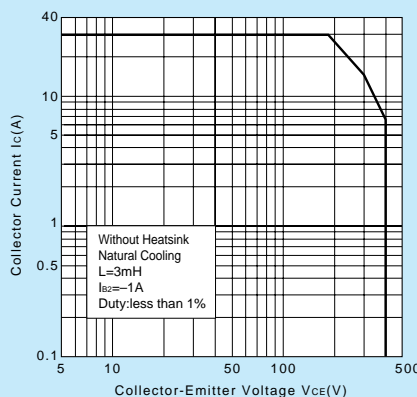
θ_{j-a-t} Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



P_C-T_a Derating

