

2SC5100

Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SA1908)

Application : Audio and General Purpose

Absolute maximum ratings (Ta=25°C)

| Symbol | Ratings | Unit |
|------------------|--------------------------|------|
| V _{CB0} | 160 | V |
| V _{CE0} | 120 | V |
| V _{EB0} | 6 | V |
| I _C | 8 | A |
| I _B | 3 | A |
| P _C | 75(T _C =25°C) | W |
| T _J | 150 | °C |
| T _{stg} | -55 to +150 | °C |

Electrical Characteristics (Ta=25°C)

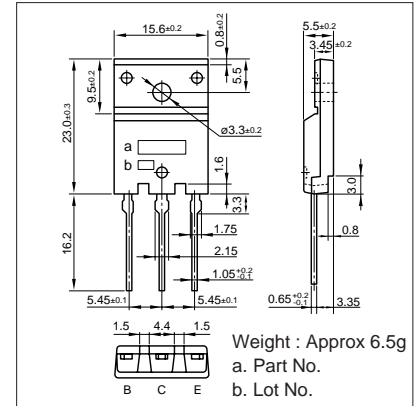
| Symbol | Conditions | Ratings | Unit |
|----------------------|---|---------|------|
| I _{CB0} | V _{CB} =160V | 10max | μA |
| I _{EB0} | V _{EB} =6V | 10max | μA |
| V _{(BR)CEO} | I _C =50mA | 120min | V |
| h _{FE} | V _{CE} =4V, I _C =3A | 50min* | |
| V _{CE(sat)} | I _C =3A, I _B =0.3A | 0.5max | V |
| f _T | V _{CE} =12V, I _E =-0.5A | 20typ | MHz |
| COB | V _{CB} =10V, f=1MHz | 200typ | pF |

*h_{FE} Rank ○(50to100), P(70to140), Y(90to180)

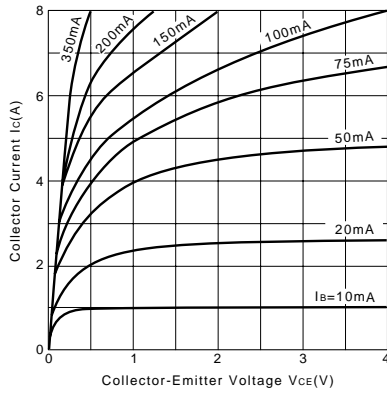
Typical Switching Characteristics (Common Emitter)

| 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) |
|---------------------|--------------------|--------------------|----------------------|----------------------|---------------------|---------------------|----------------------|-----------------------|---------------------|
| 40 | 10 | 4 | 10 | -5 | 0.4 | -0.4 | 0.13typ | 3.50typ | 0.32typ |

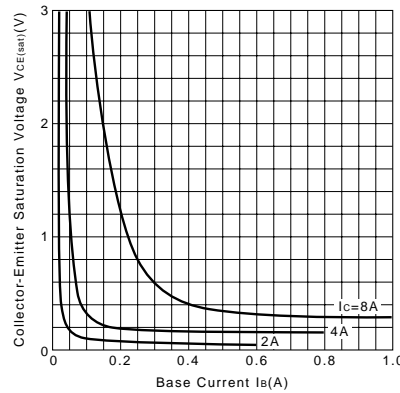
External Dimensions FM100(TO3PF)



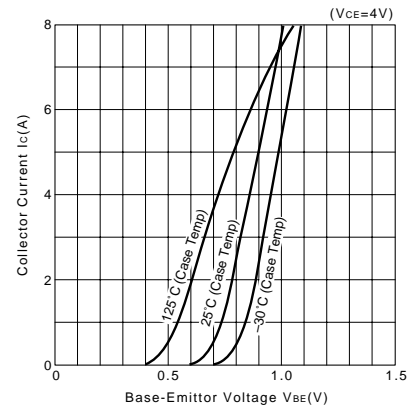
I_C-V_{CE} Characteristics (Typical)



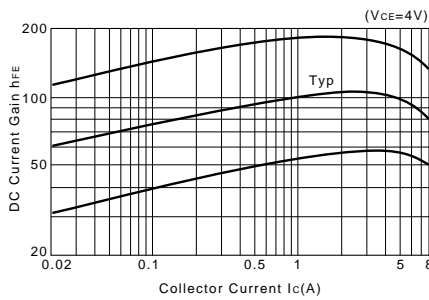
V_{CE(sat)}-I_B Characteristics (Typical)



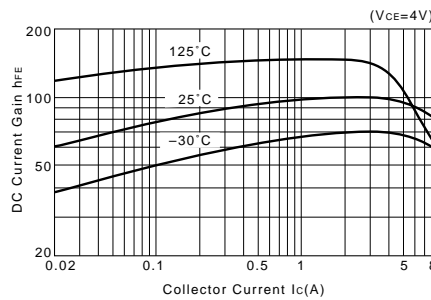
I_C-V_{BE} Temperature Characteristics (Typical)



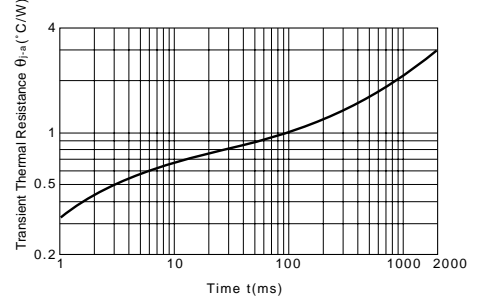
h_{FE}-I_C Characteristics (Typical)



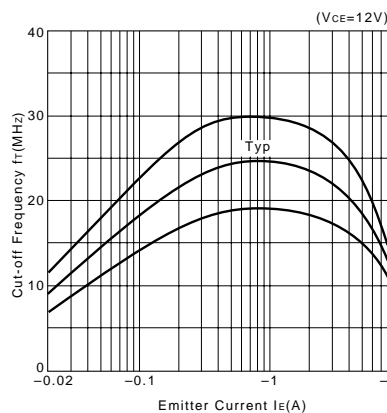
h_{FE}-I_C Temperature Characteristics (Typical)



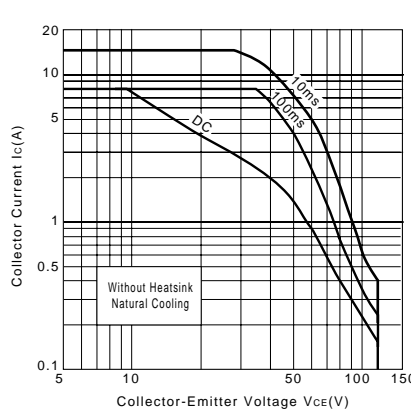
θ_{j-a}-t Characteristics



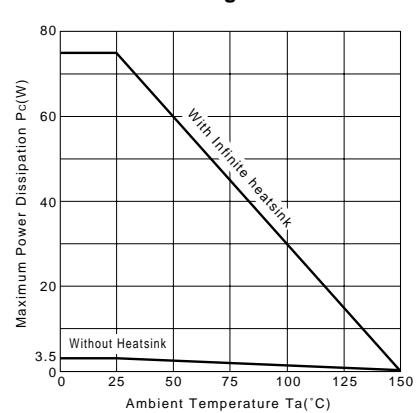
f_T-I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



P_C-T_a Derating



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