2SC5100

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

Application : Audio and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SC5100	Unit
V_{CBO}	160	V
V_{CEO}	120	V
V_{EBO}	6	V
I_C	8	A
I_B	3	A
P_C	75(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

Electrical Characteristics (Ta=25°C)

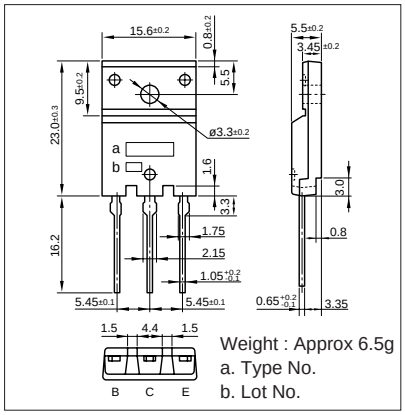
Symbol	Conditions	2SC5100	Unit
I_{CBO}	V_{CB}=160V	10max	μA
I_{EBO}	V_{EB}=6V	10max	μA
$V_{(BR)CEO}$	I_C=50mA	120min	V
h_{FE}	V_{CE}=4V, I_C=3A	50min*	
$V_{CE(sat)}$	I_C=3A, I_B=0.3A	0.5max	V
f_T	V_{CE}=12V, I_E=–0.5A	20typ	MHz
C_{OB}	V_{CB}=10V, f=1MHz	200typ	pF

*h_{FE} Rank $\overline{O}$(50 to 100), P(70 to 140), Y(90 to 180)

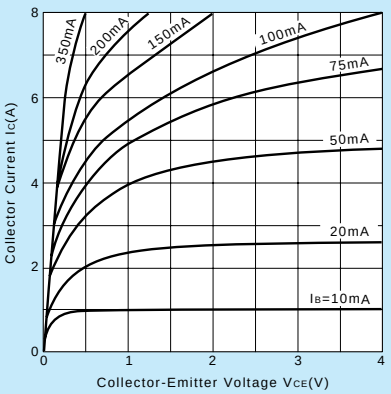
Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (A)	I_{B2} (A)	ton (μs)	tstg (μs)	tf (μs)
40	10	4	10	–5	0.4	–0.4	0.13typ	3.50typ	0.32typ

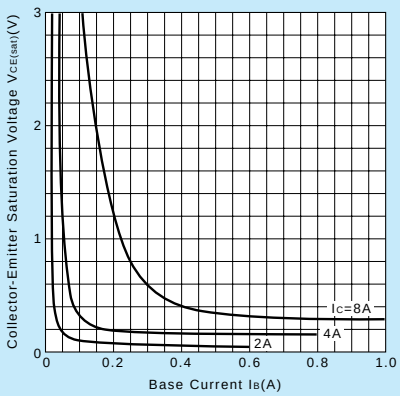
External Dimensions FM100(TO3PF)



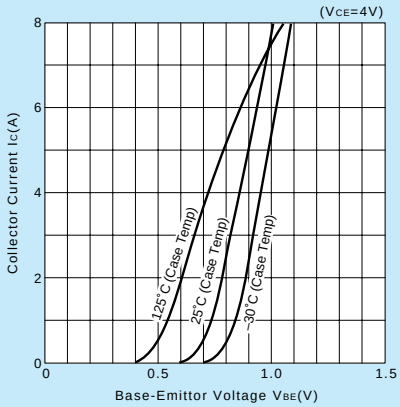
I_C–V_{CE} Characteristics (Typical)



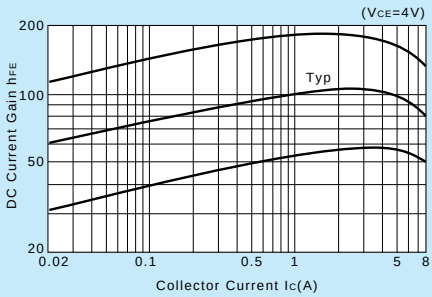
$V_{CE(sat)}$–I_B Characteristics (Typical)



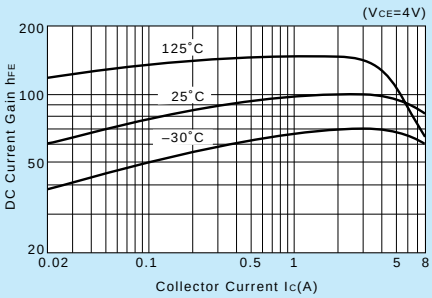
I_C–V_{BE} Temperature Characteristics (Typical)



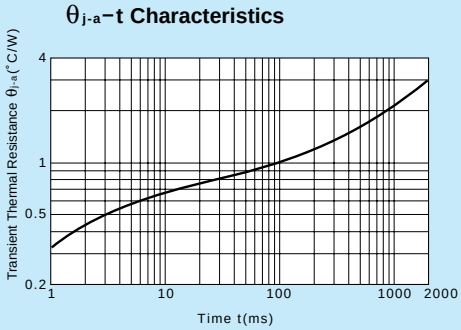
h_{FE}–I_C Characteristics (Typical)



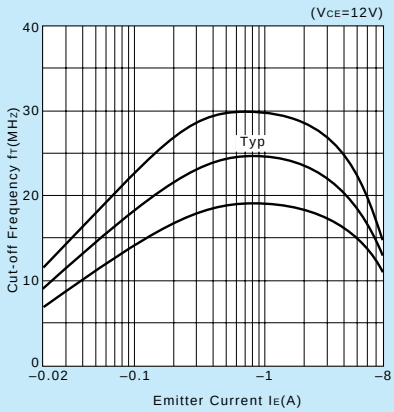
h_{FE}–I_C Temperature Characteristics (Typical)



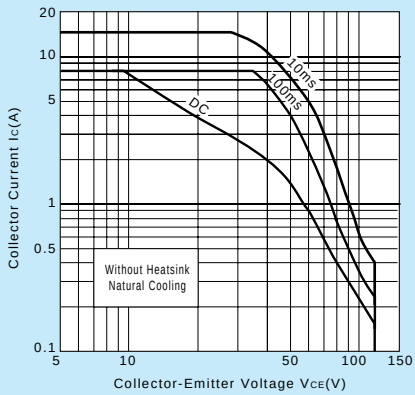
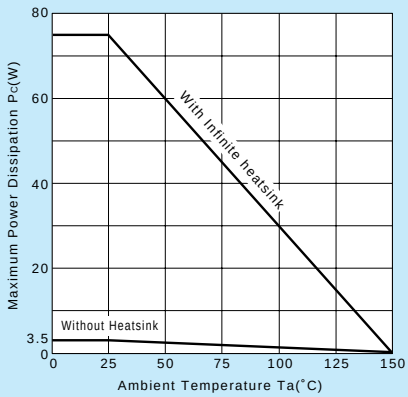
$\theta_{j\text{-}a}$–t Characteristics



f_T–I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc–Ta Derating