2SC3834

Silicon NPN Triple Diffused Planar Transistor (Switching Transistor)

Application : Humidifier, DC-DC Converter, and General Purpose

■Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V_{CBO}	200	V
V_{CEO}	120	V
V_{EBO}	8	V
I_C	7(Pulse14)	A
I_B	3	A
P_C	50(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

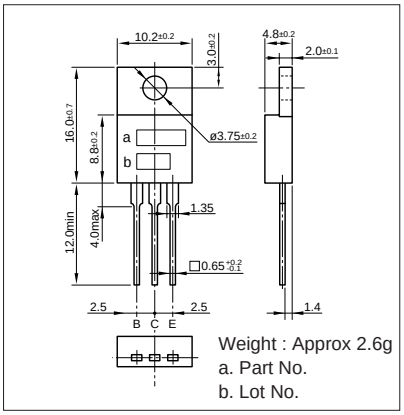
■Electrical Characteristics (Ta=25°C)

Symbol	Conditions	Ratings	Unit
I_{CBO}	V_{CB}=200V	100max	μA
I_{EBO}	V_{EB}=8V	100max	μA
$V_{(BR)CEO}$	I_C=50mA	120min	V
h_{FE}	V_{CE}=4V, I_C=3A	70 to 220	
$V_{CE(sat)}$	I_C=3A, I_B=0.3A	0.5max	V
$V_{BE(sat)}$	I_C=3A, I_B=0.3A	1.2max	V
f_T	V_{CE}=12V, I_E=–0.5A	30typ	MHz
C_{OB}	V_{CB}=10V, f=1MHz	110typ	pF

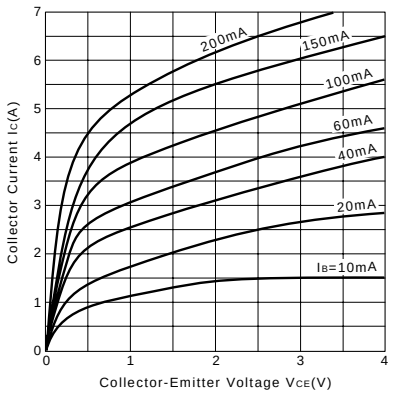
■Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (A)	I_{B2} (A)	ton (μs)	tstg (μs)	tf (μs)
50	16.7	3	10	–5	0.3	–0.6	0.5max	3.0max	0.5max

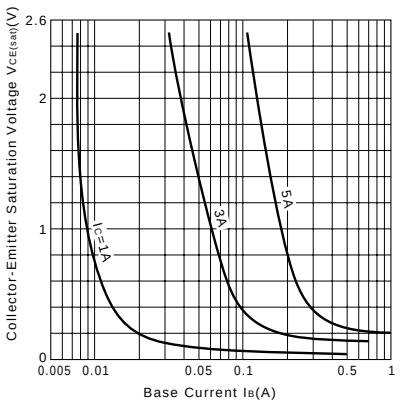
External Dimensions MT-25(TO220)



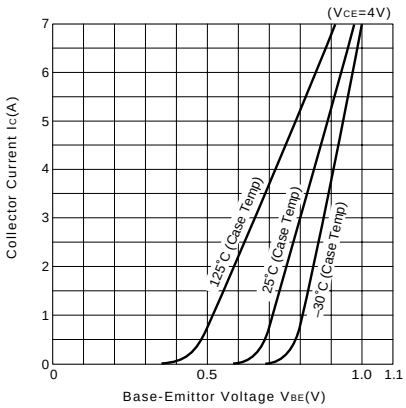
I_C–V_{CE} Characteristics (Typical)



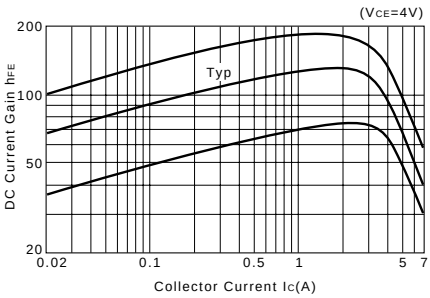
V_{CE}(sat)–I_B Characteristics (Typical)



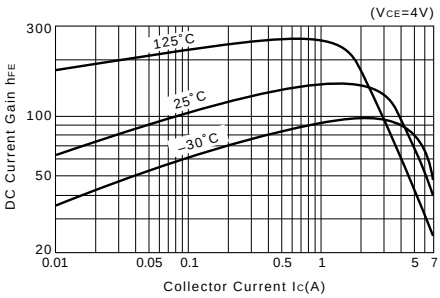
I_C–V_{BE} Temperature Characteristics (Typical)



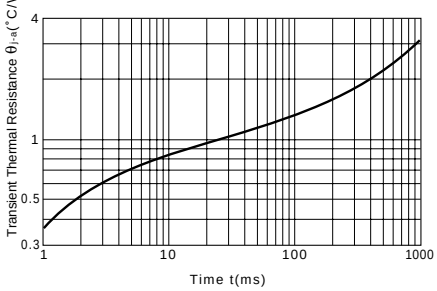
h_{FE}–I_C Characteristics (Typical)



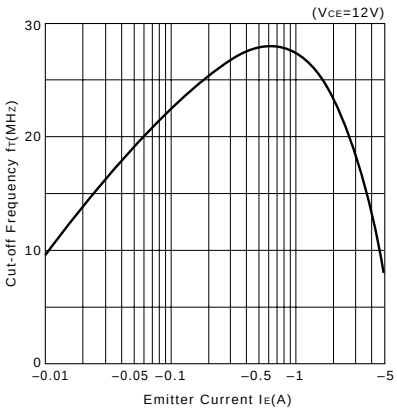
h_{FE}–I_C Temperature Characteristics (Typical)



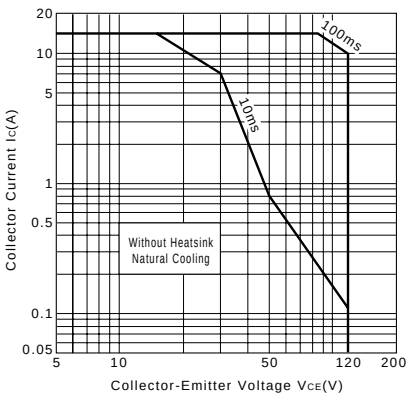
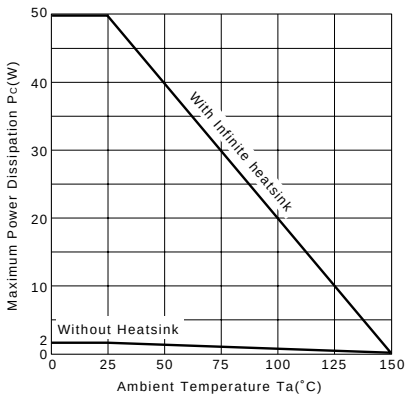
$\theta_{j\text{-}a}$–t Characteristics



f_T–I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc–Ta Derating