2SC3680

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

Application : Switching Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SC3680	Unit
V_{CBO}	900	V
V_{CEO}	800	V
V_{EBO}	7	V
I_C	7(Pulse14)	A
I_B	3.5	A
P_C	120(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

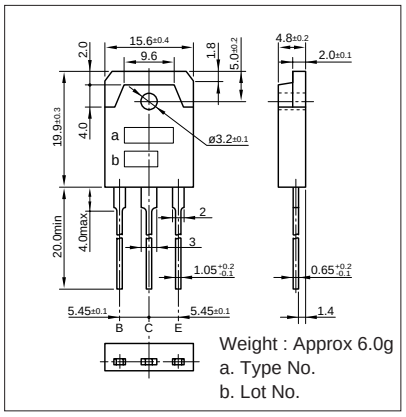
Electrical Characteristics (Ta=25°C)

Symbol	Conditions	2SC3680	Unit
I_{CBO}	V_{CB}=800V	100max	μA
I_{EBO}	V_{EB}=7V	100max	μA
$V_{(BR)CEO}$	I_C=10mA	800min	V
h_{FE}	V_{CE}=4V, I_C=3A	10to30	
$V_{CE(sat)}$	I_C=3A, I_B=0.6A	0.5max	V
$V_{BE(sat)}$	I_C=3A, I_B=0.6A	1.2max	V
f_T	V_{CE}=12V, I_E=–2A	6typ	MHz
C_{OB}	V_{CB}=10V, f=1MHz	105typ	pF

Typical Switching Characteristics (Common Emitter)

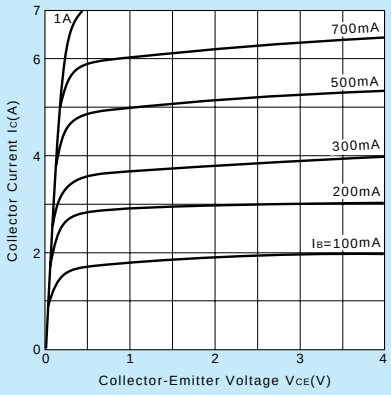
V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (A)	I_{B2} (A)	ton (μs)	tstg (μs)	tf (μs)
250	83	3	10	–5	0.45	–1.5	1max	5max	1max

External Dimensions MT-100(TO3P)

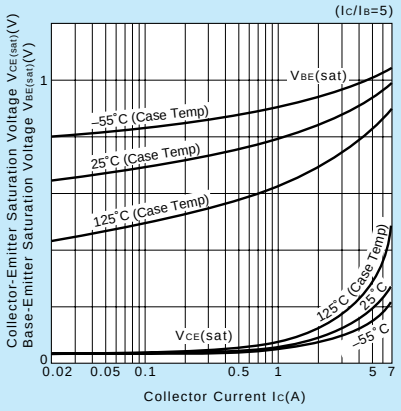


Weight : Approx 6.0g
a. Type No.
b. Lot No.

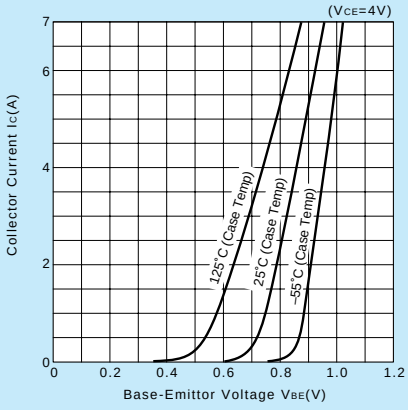
I_C–V_{CE} Characteristics (Typical)



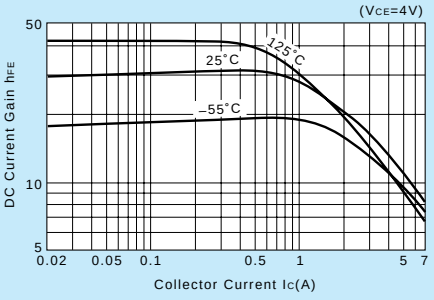
$V_{CE(sat)}$,$V_{BE(sat)}$–I_C Temperature Characteristics (Typical)



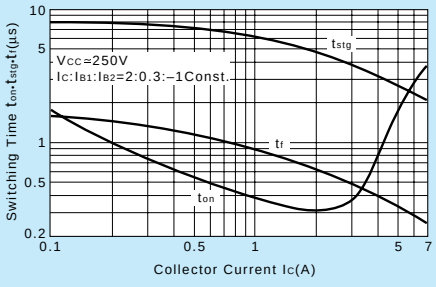
I_C–V_{BE} Temperature Characteristics (Typical)



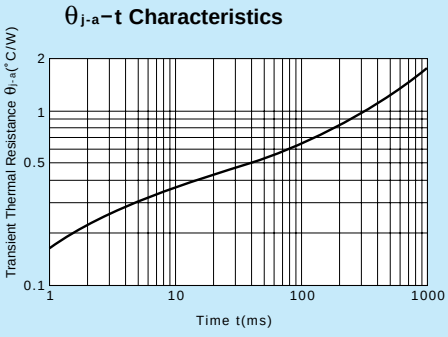
h_{FE}–I_C Characteristics (Typical)



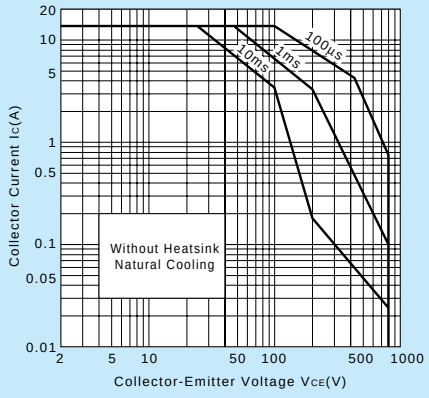
t_{on}•t_{stg}•t_f–I_C Characteristics (Typical)



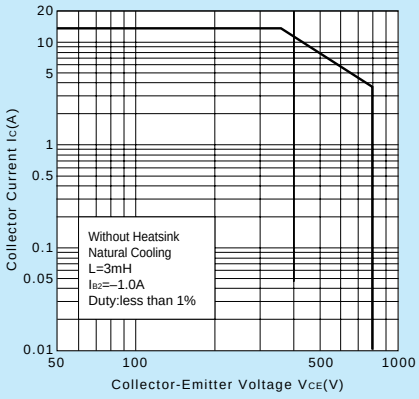
$\theta_{j\text{-}a}$–t Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



Pc–Ta Derating