

2SC3833

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

Application : Switching Regulator and General Purpose

■ Absolute maximum ratings (T_a=25°C)

Symbol	2SC3833	Unit
V _{CB0}	500	V
V _{CE0}	400	V
V _{EB0}	10	V
I _C	12(Pulse24)	A
I _B	4	A
P _C	100(T _C =25°C)	W
T _J	150	°C
T _{stg}	-55 to +150	°C

■ Electrical Characteristics

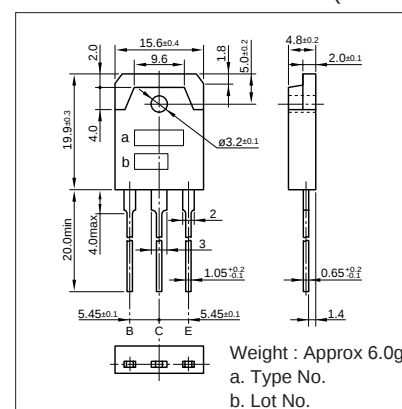
($T_a=25^{\circ}\text{C}$)

Symbol	Conditions	2SC3833	Unit
ICBO	V _{CB} =500V	100max	μA
IEBO	V _{EB} =10V	100max	μA
V(BR)CEO	I _C =25mA	400min	V
h _{FE}	V _{CE} =4V, I _C =7A	10to30	
V _{CE(sat)}	I _C =7A, I _B =1.4A	0.5max	V
V _{BE(sat)}	I _C =7A, I _B =1.4A	1.3max	V
f _r	V _{CE} =12V, I _E =-1A	10typ	MHz
C _{OB}	V _{CB} =10V, f=1MHz	105typ	pF

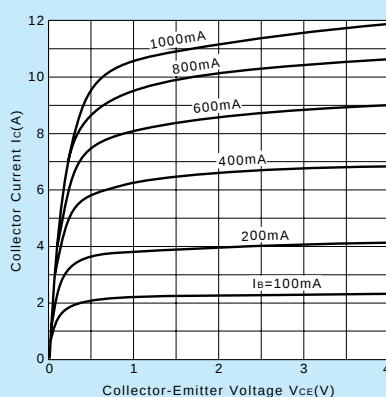
Typical Switching Characteristics (Common Emitter)

VCC (V)	RL (Ω)	IC (A)	VBB1 (V)	VBB2 (V)	IB1 (A)	IB2 (A)	ton (μs)	tstg (μs)	tf (μs)
200	28.5	7	10	-5	0.7	-1.4	1.0max	3.0max	0.5max

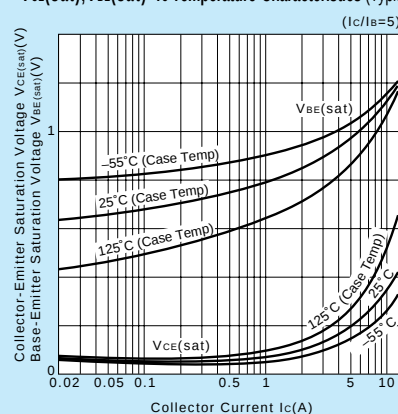
External Dimensions MT-100(TO3P)



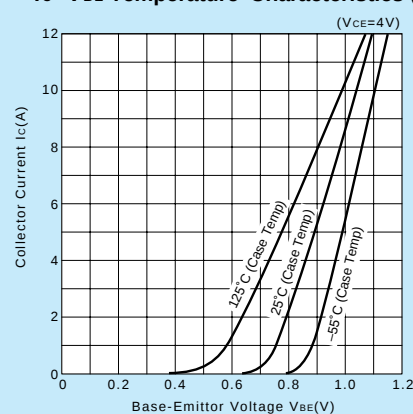
I_C - V_{CE} Characteristics (Typical)



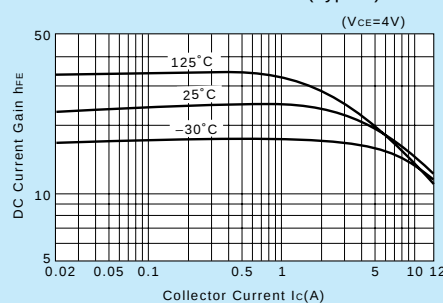
V_{CE(sat)}, V_{BE(sat)}-I_C Temperature Characteristics (Typical)



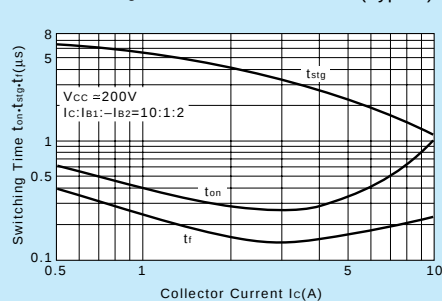
I_C-V_{BE} Temperature Characteristics (Typical)



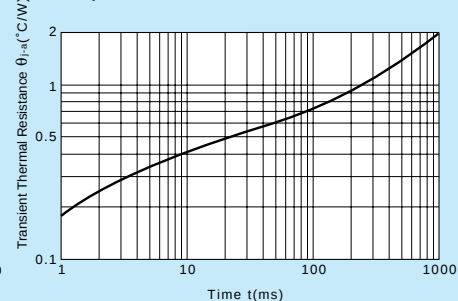
$h_{FE}-I_C$ Characteristics (Typical)



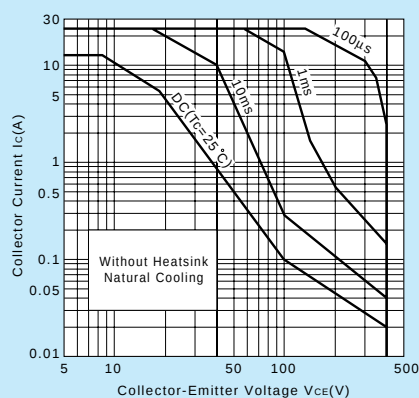
t_{on}•t_{stg}•t_f-I_C Characteristics (Typical)



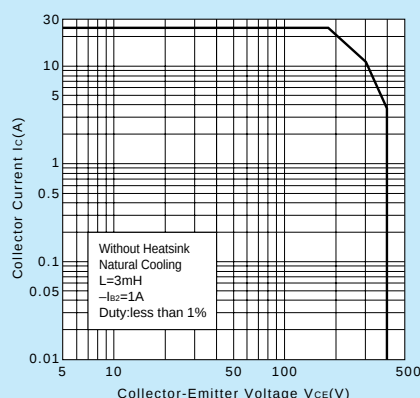
θ_{j-a-t} Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



Pc-Ta Derating

