

2SC3830

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

Application : Switching Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SC3830	Unit
V _{CB0}	600	V
V _{CEO}	500	V
V _{EBO}	10	V
I _C	6(Pulse12)	A
I _B	2	A
P _C	50(Tc=25°C)	W
T _J	150	°C
T _{stg}	-55 to +150	°C

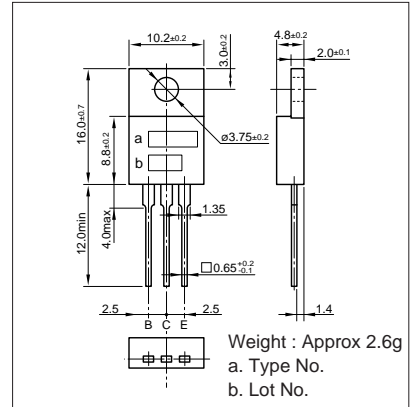
Electrical Characteristics (Ta=25°C)

Symbol	Conditions	2SC3830	Unit
I _{CBO}	V _{CB} =600V	1max	mA
I _{EBO}	V _{EB} =10V	100max	μA
V _{(BR)CEO}	I _C =25mA	500min	V
h _{FE}	V _{CE} =4V, I _C =2A	10to30	
V _{CE(sat)}	I _C =2A, I _B =0.4A	0.5max	V
V _{BE(sat)}	I _C =2A, I _B =0.4A	1.3max	V
f _r	V _{CE} =12V, I _E =-0.5A	8typ	MHz
COB	V _{CB} =10V, f=1MHz	45typ	pF

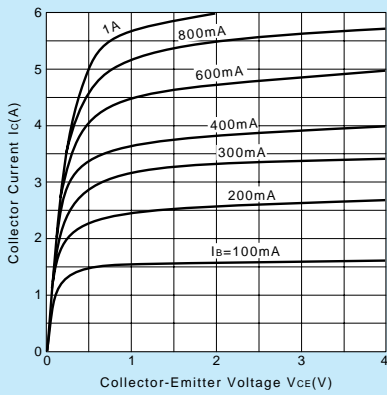
Typical Switching Characteristics (Common Emitter)

V _{CC} (V)	R _L (Ω)	I _C (A)	V _{BB1} (V)	V _{BB2} (V)	I _{B1} (A)	I _{B2} (A)	t _{on} (μs)	t _{stg} (μs)	t _r (μs)
200	100	2	10	-5	0.2	-0.4	1max	4.5max	0.5max

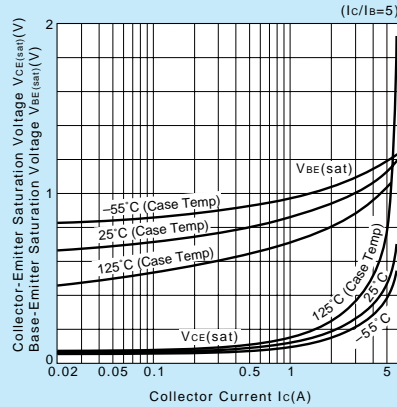
External Dimensions MT-25(TO220)



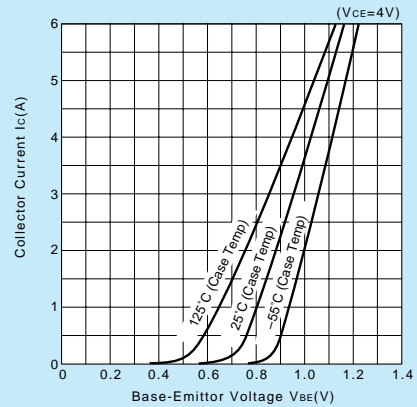
I_C-V_{CE} Characteristics (Typical)



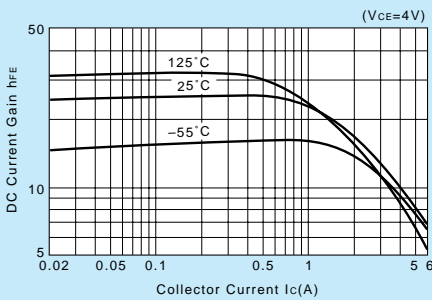
V_{CE(sat)}, V_{BE(sat)}-I_C Temperature Characteristics (Typical)



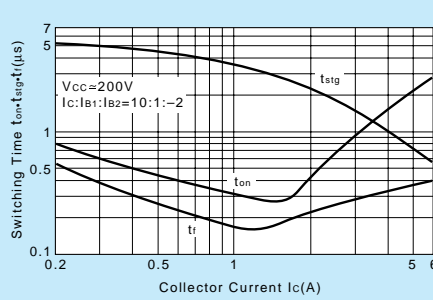
I_C-V_{BE} Temperature Characteristics (Typical)



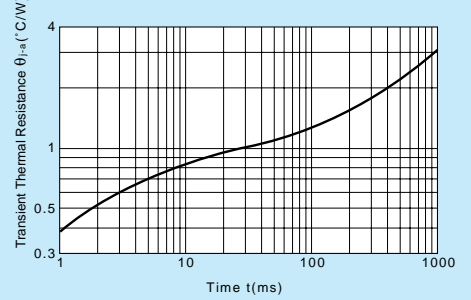
h_{FE}-I_C Characteristics (Typical)



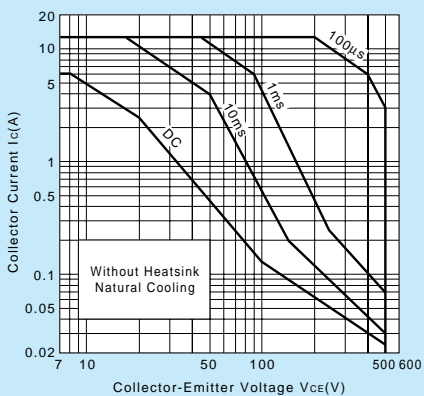
t_{on}*t_{stg}*t_r-I_C Characteristics (Typical)



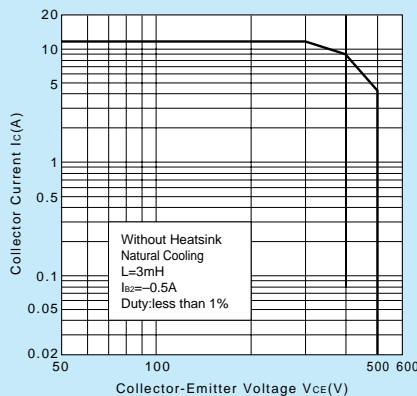
θ_{j-a}-t Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



P_C-T_a Derating

