Silicon NPN Power Transistors 2SC3851 2SC3851A

DESCRIPTION

・With TO-220F package
・Complement to type 2SA1488/1488A

APPLICATIONS

・Audio and PPC high voltage power supply ,and general purpose

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

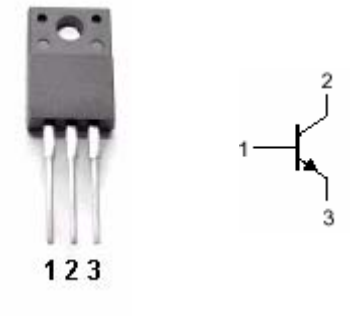

Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SC3851	Open emitter	80	V
		2SC3851A		100	
V_{CEO}	Collector-emitter voltage	2SC3851	Open base	60	V
		2SC3851A		80	
V_{EBO}	Emitter-base voltage		Open collector	6	V
I_C	Collector current			4	A
I_B	Base current			1	A
P_C	Collector dissipation		T_C=25℃	25	W
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-55~150	℃

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	2SC3851	I_C=25mA ; I_B=0	60			V
		2SC3851A		80			
V_{CEsat}	Collector-emitter saturation voltage		I_C=2.0A;I_B=0.2A			0.5	V
I_{CBO}	Collector cut-off current	2SC3851	V_{CB}=80V;I_E=0			0.1	mA
		2SC3851A	V_{CB}=100V;I_E=0			0.1	mA
I_{EBO}	Emitter cut-off current		V_{EB}=6V; I_C=0			0.1	mA
h_{FE}	DC current gain		I_C=1A ; V_{CE}=4V	40		320	
f_T	Transition frequency		I_C=0.2A ; V_{CE}=12V		15		MHz
C_{OB}	Output capacitance		I_E=0 ; V_{CB}=10V;f=1MHz		60		pF
Switching time							
t_{on}	Turn-on time		I_C=2.0A I_{B1}=-I_{B2}=0.2A V_{CC}=12V ,R_L=6Ω		0.20		μs
t_s	Storage time				1.00		μs
t_f	Fall time				0.30		μs

PACKAGE OUTLINE

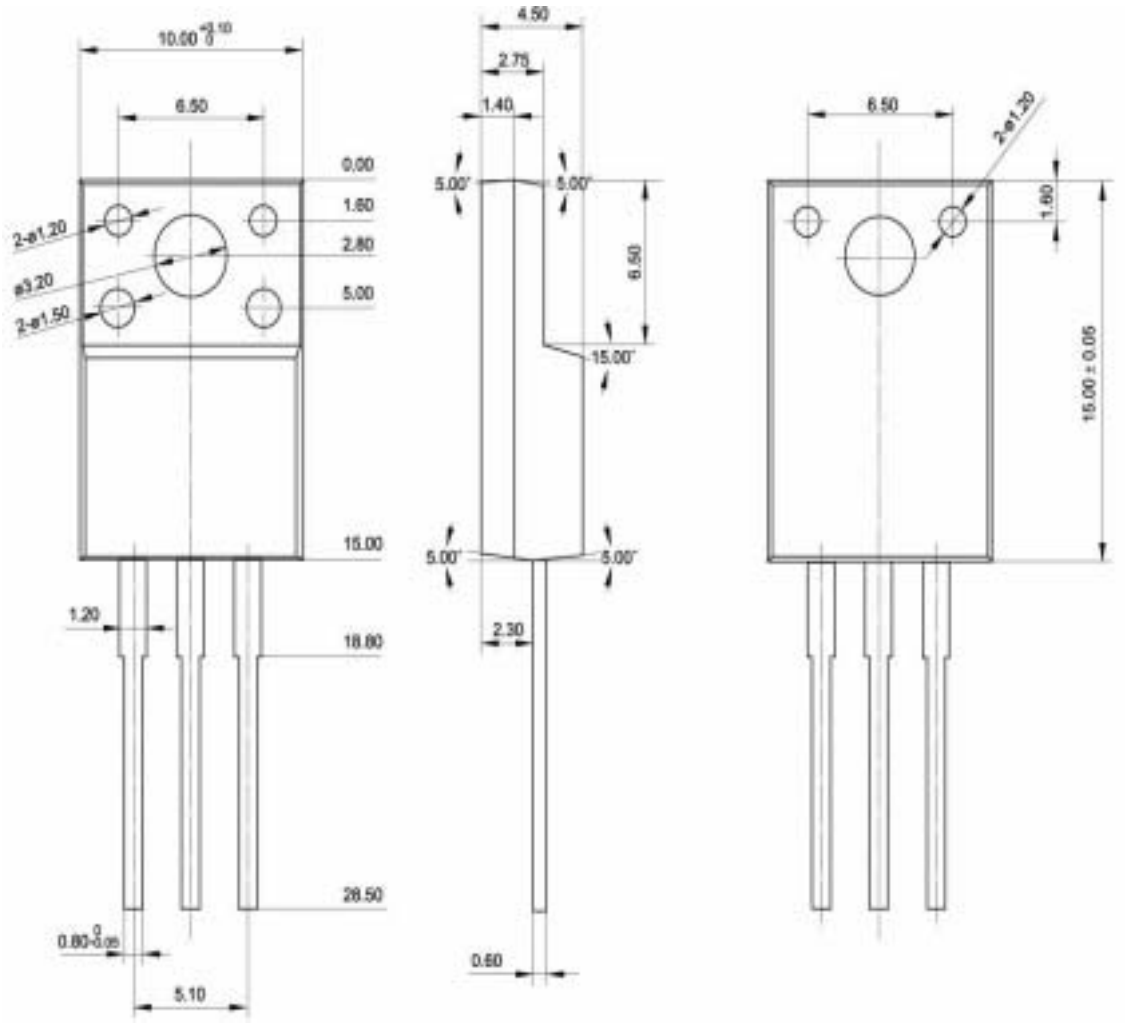

Fig.2 Outline dimensions

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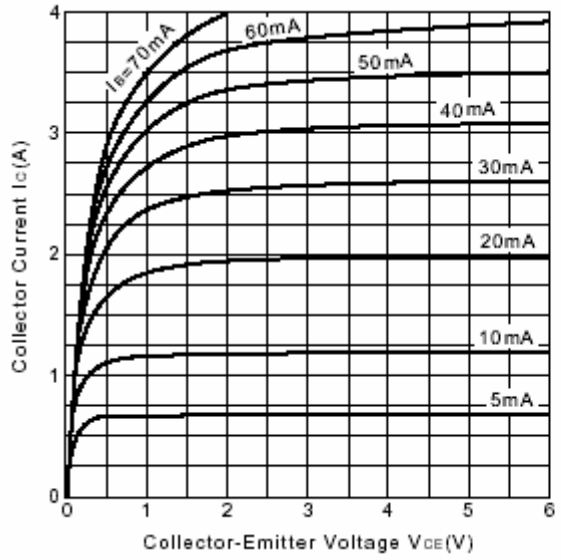

Fig.3 Static Characteristic

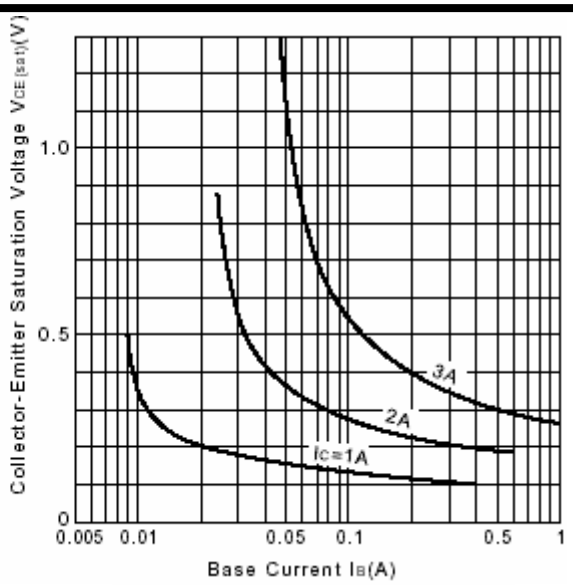

Fig.4 VCE(sat)−IB Characteristics

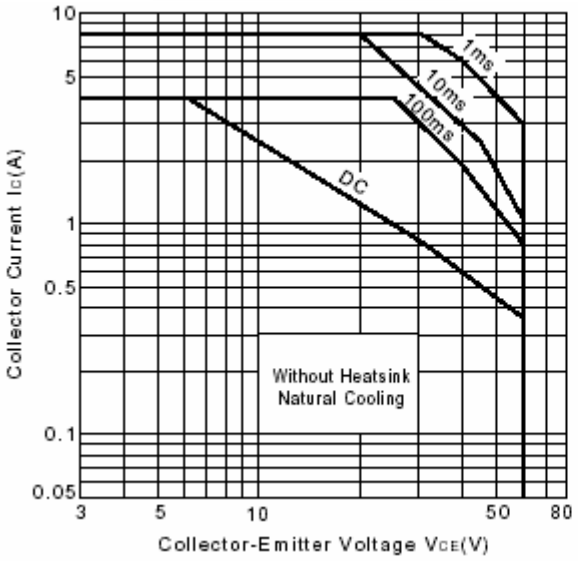

Fig.5 Safe Operating Area

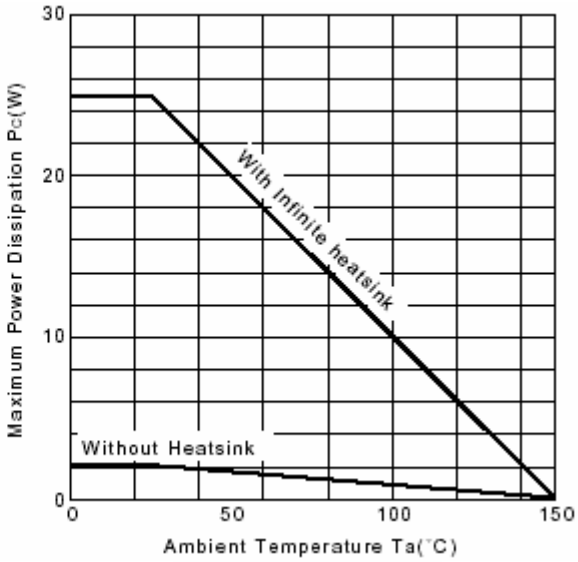

Fig.6 Pc−Ta Derating

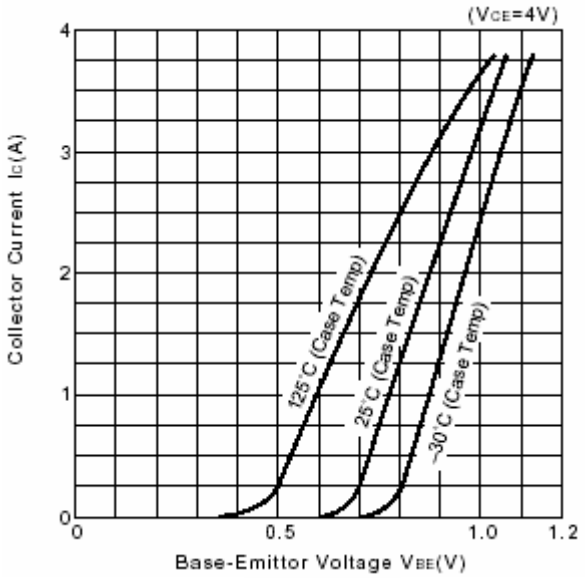

Fig.7 IC−VBE

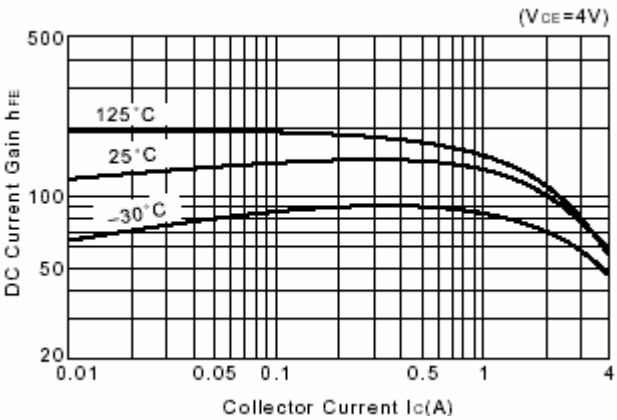

Fig.8 DC current Gain