

Silicon NPN Power Transistors

2SC3851 2SC3851A

DESCRIPTION

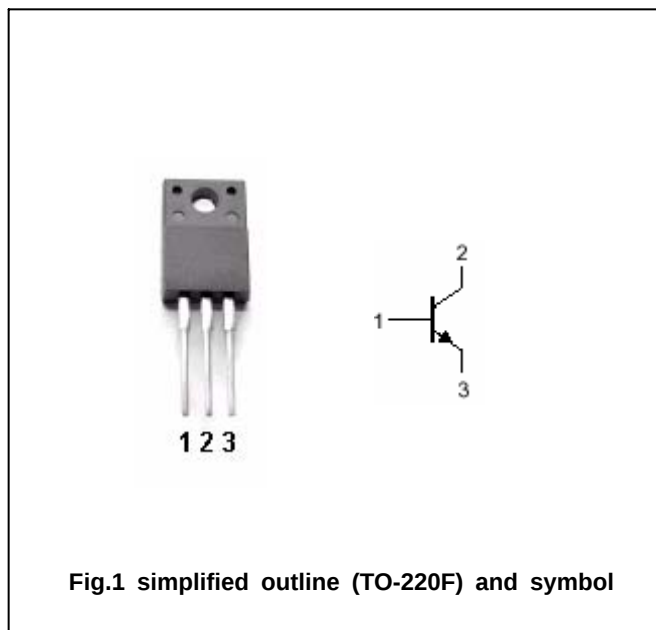
- With TO-220F package
- Complement to type 2SA1488/1488A

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

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	

Silicon NPN Power Transistors

2SC3851 2SC3851A

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	$I_C=2.0A \quad I_{B1}=-I_{B2}=0.2A$ $V_{CC}=12V, R_L=6\Omega$		0.20		μs
t_s	Storage time			1.00		μs
t_f	Fall time			0.30		μs

Silicon NPN Power Transistors

2SC3851 2SC3851A

PACKAGE OUTLINE

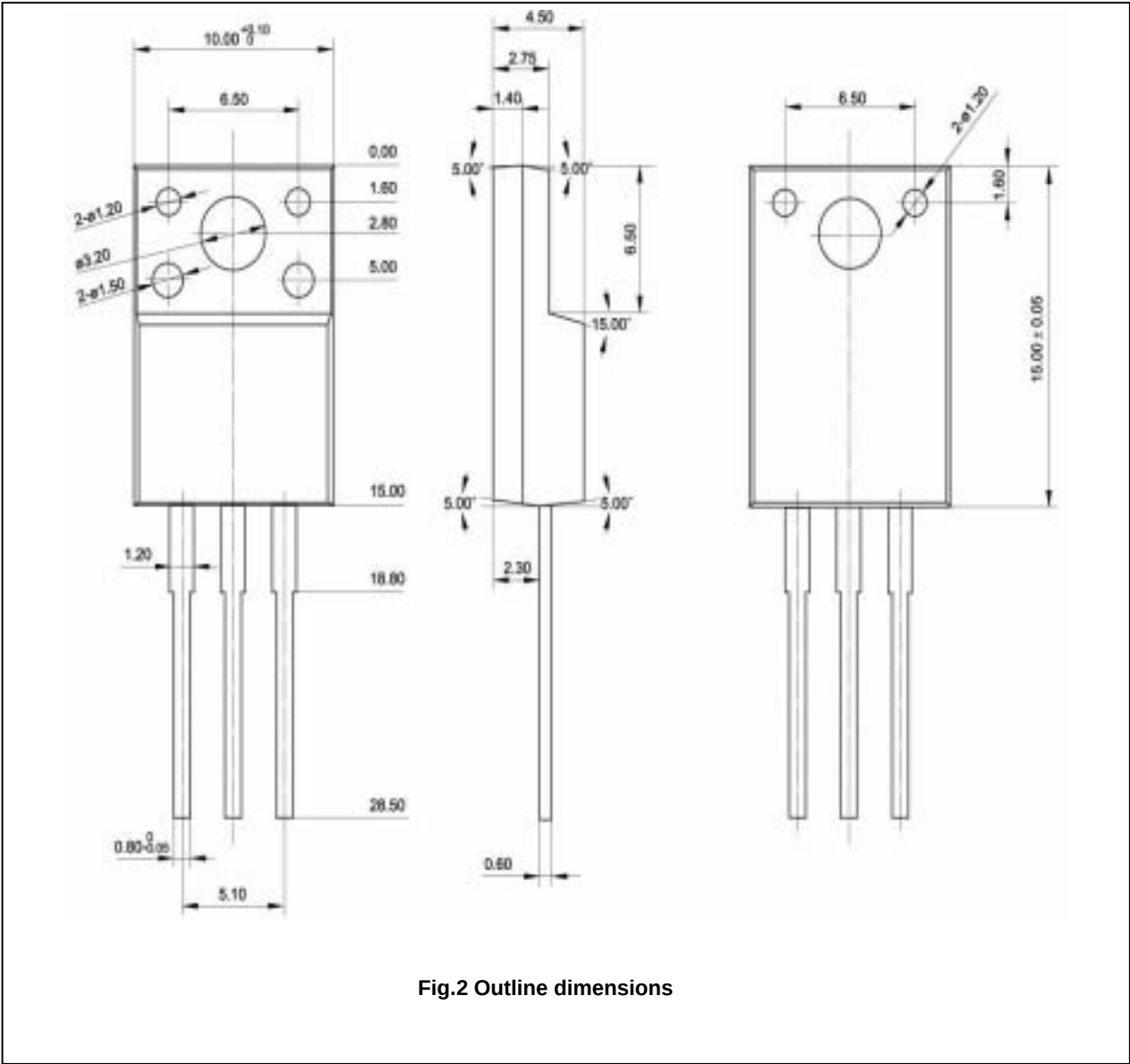


Fig.2 Outline dimensions

Silicon NPN Power Transistors

2SC3851 2SC3851A

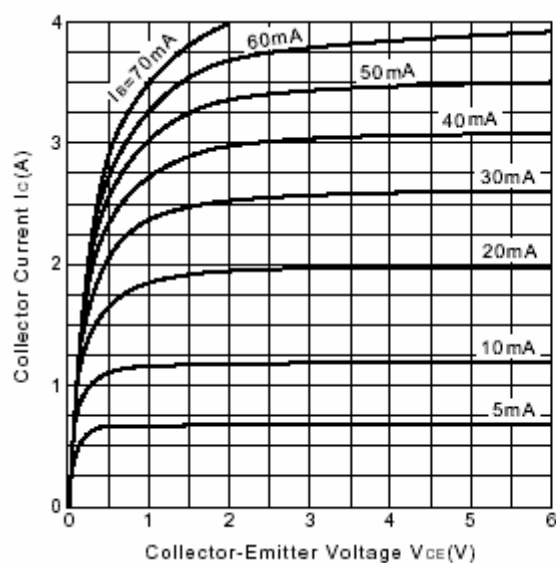


Fig.3 Static Characteristic

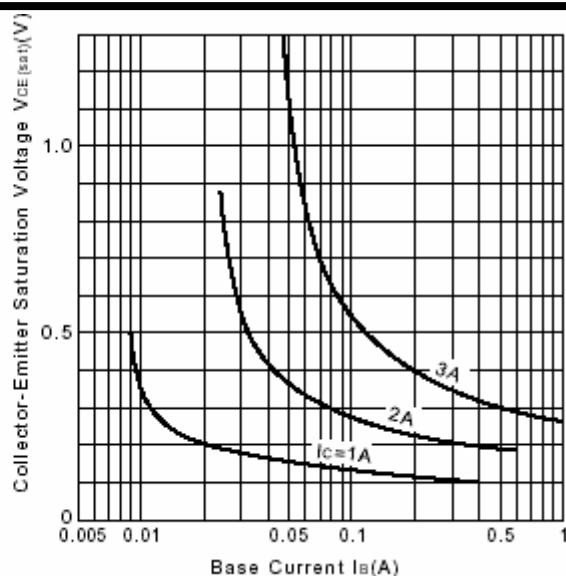
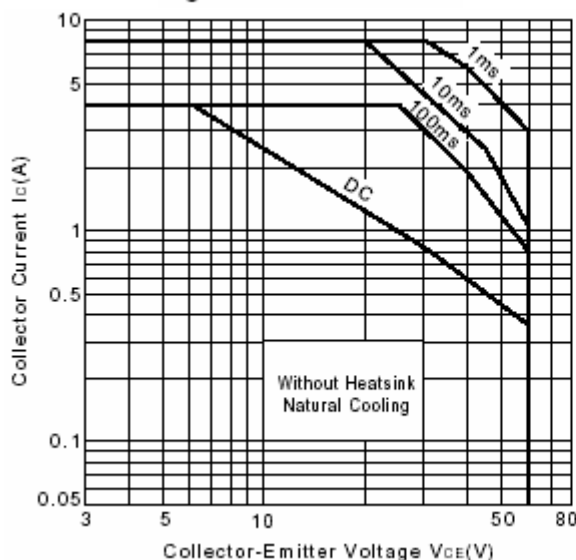
Fig.4 $V_{CE(sat)}-I_B$ Characteristics

Fig.5 Safe Operating Area

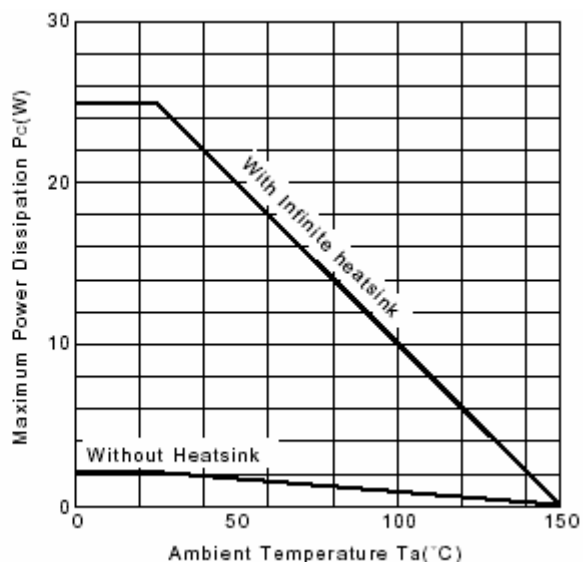
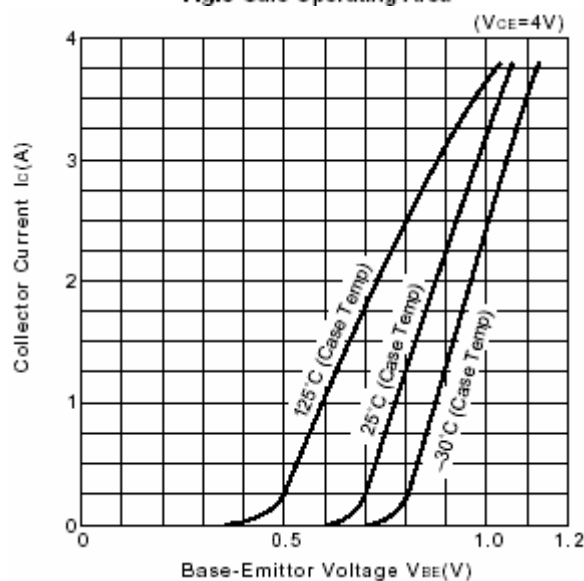
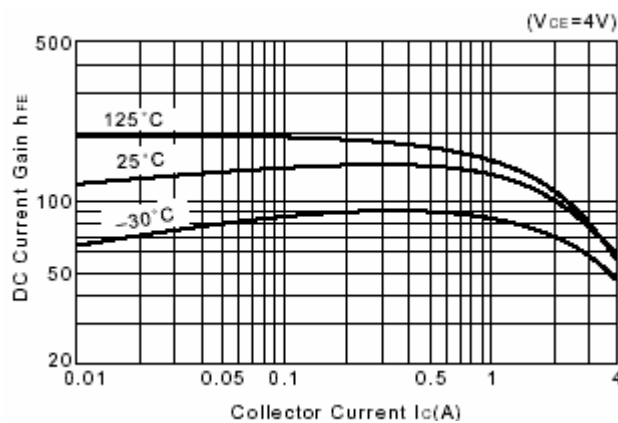
Fig.6 P_C-T_a DeratingFig.7 I_C-V_{BE} 

Fig.8 DC current Gain