

Inchange Semiconductor

Product Specification

Silicon NPN Power Transistors

2SC3851 2SC3851A

DESCRIPTION

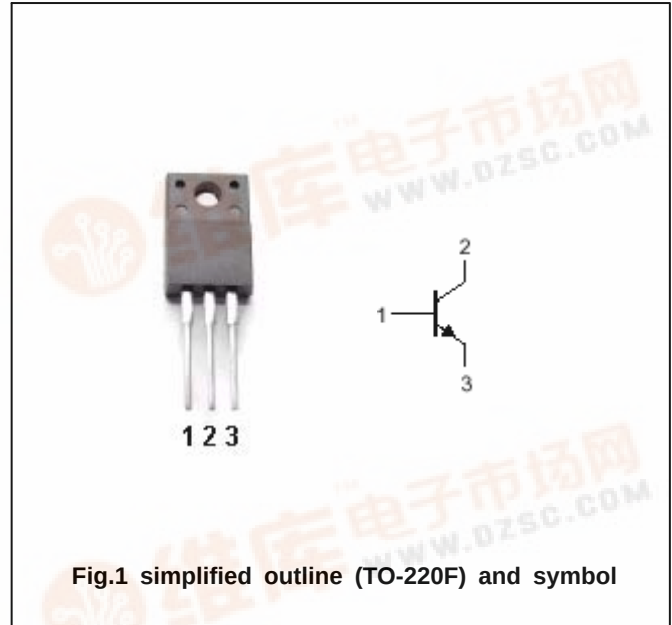
- With TO-220F package
- Complement to type 2SA1488/1488A

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SC3851	80	V
		2SC3851A	100	
V_{CEO}	Collector-emitter voltage	2SC3851	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	$T_C=25^{\circ}\text{C}$	25	W
T_j	Junction temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-55~150	$^{\circ}\text{C}$

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CHARACTERISTICS

Tj=25°C 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		$I_C=2.0A \ I_{B1}=-I_{B2}=0.2A$ $V_{CC}=12V \ ,R_L=6\Omega$		0.20		μs
t_s	Storage time				1.00		μs
t_f	Fall time				0.30		μs

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PACKAGE OUTLINE

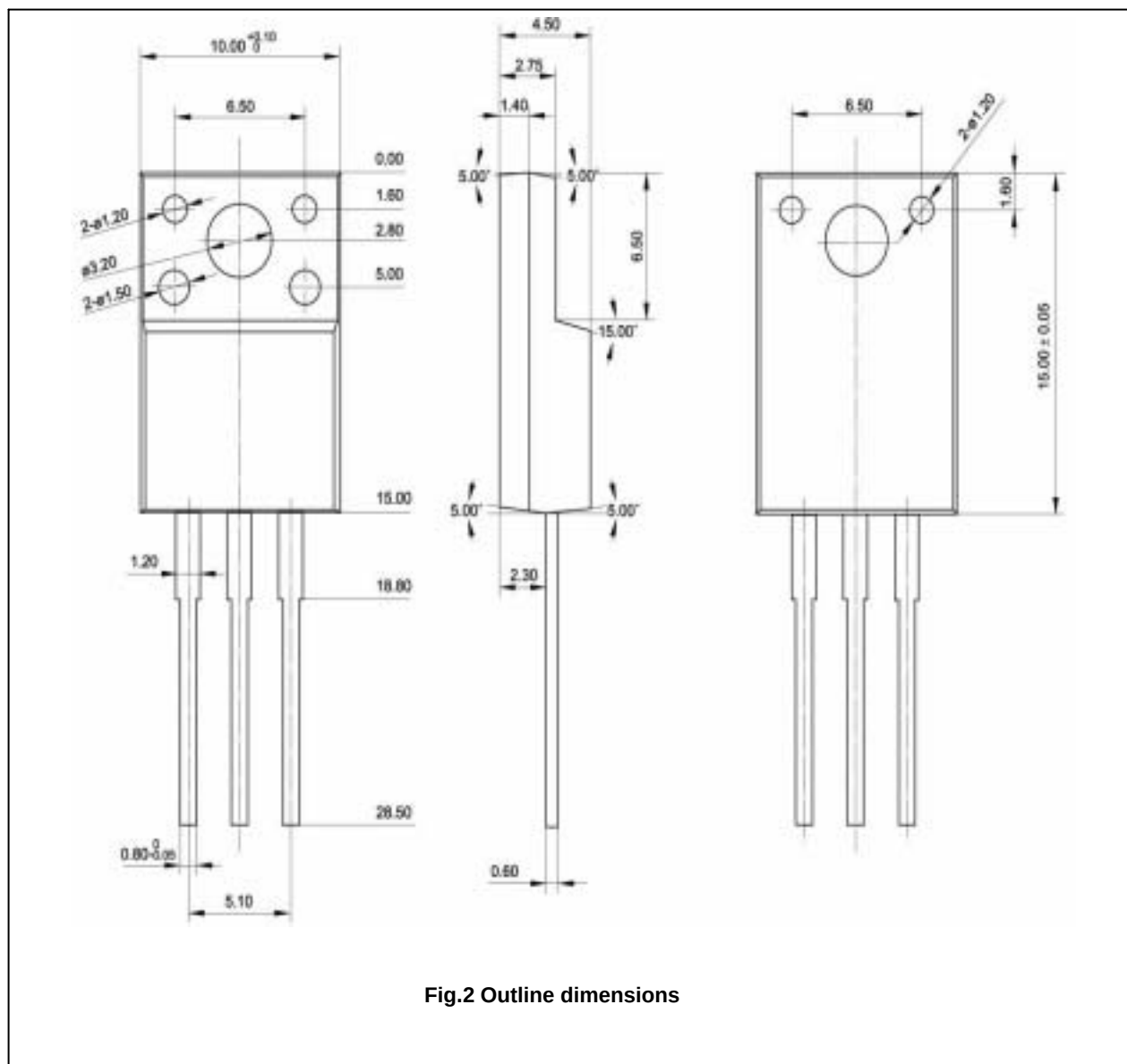


Fig.2 Outline dimensions

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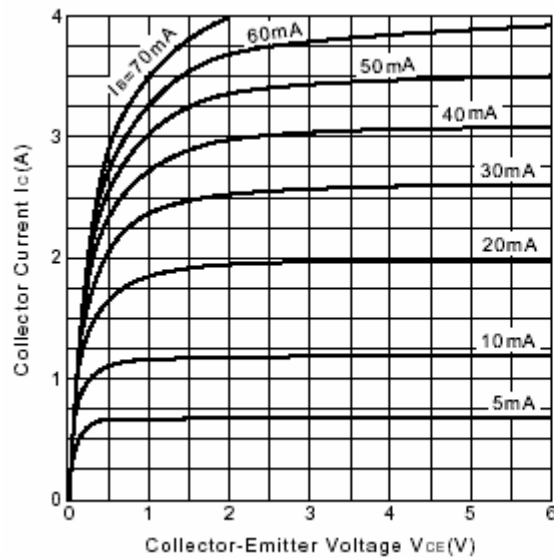


Fig.3 Static Characteristic

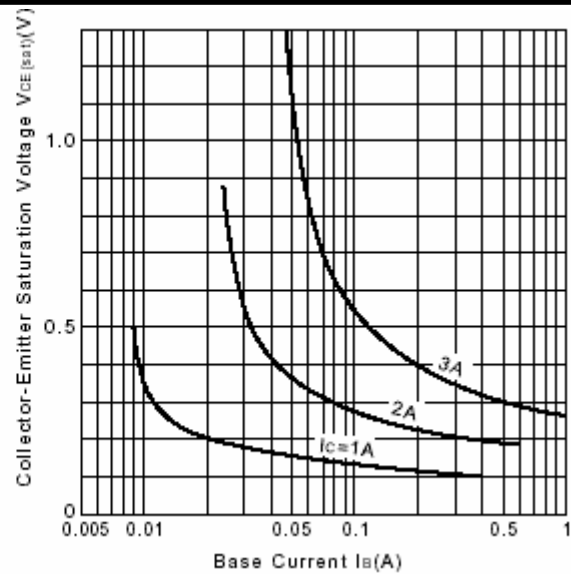
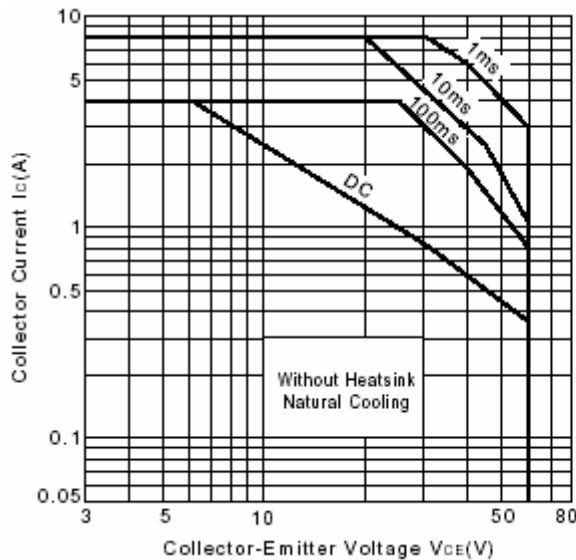
Fig.4 $V_{CE(sat)}$ - I_B Characteristics

Fig.5 Safe Operating Area

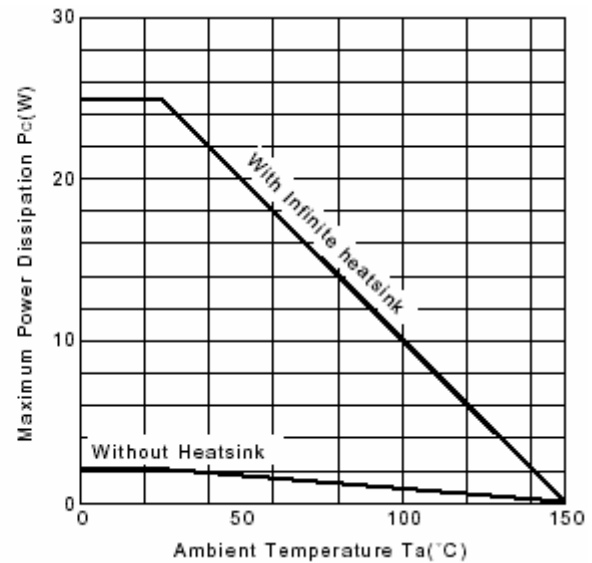
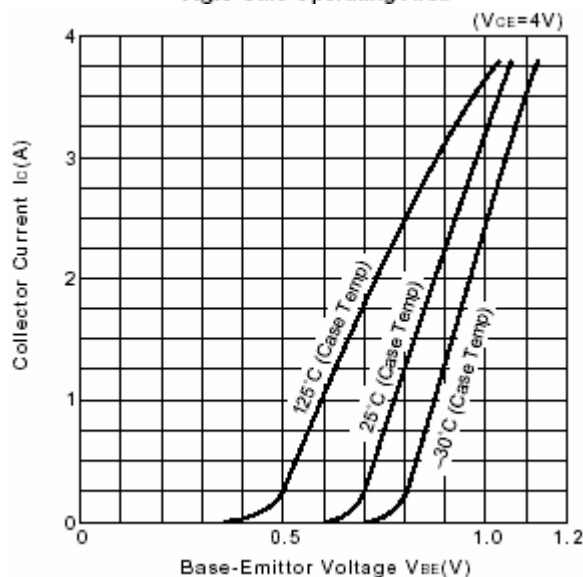
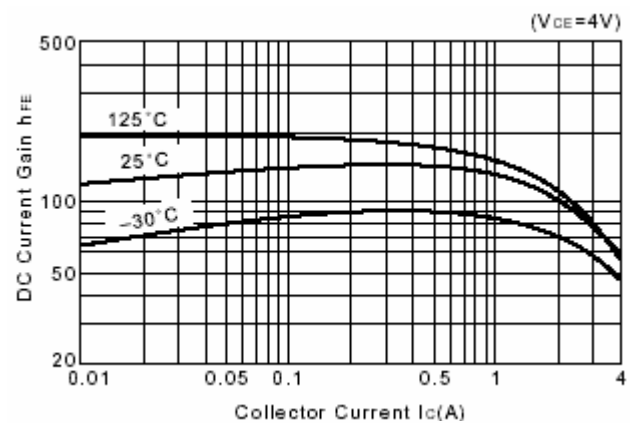
Fig.6 P_c - T_a DeratingFig.7 I_C - V_{BE} 

Fig.8 DC current Gain