

Silicon NPN Power Transistors

2SC3685

DESCRIPTION

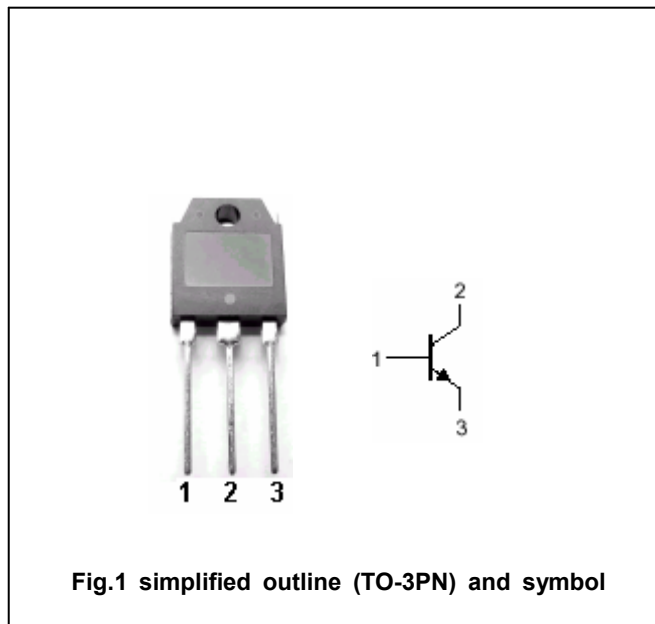
- With TO-3PN package
- High breakdown voltage
- High reliability
- Fast speed

APPLICATIONS

- Ultrahigh-definition CRT display horizontal deflection output applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings($T_a = \square$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1500	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		6	A
I_{CP}	Collector current-pulse		16	A
P_C	Collector power dissipation	$T_C = 25\square$	125	W
T_j	Junction temperature		150	$\square$
T_{stg}	Storage temperature		-55~150	$\square$

Silicon NPN Power Transistors

2SC3685

CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=100mA; I_B=0$	800			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=4A; I_B=1A$			5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=4A; I_B=1A$			1.5	V
I_{CES}	Collector cut-off current	$V_{CE}=1500V; R_{BE}=0$			1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=4V; I_C=0$			1	mA
h_{FE}	DC current gain	$I_C=1A; V_{CE}=5V$	8			

Switching times

t_{stg}	Storage time	$I_C=4A; I_{B1}=0.8A; I_{B2}=-1.6A$ $V_{CC}=200V$			3.0	μs
t_f	Fall time			0.1	0.2	μs

2SC3685

The technical drawing illustrates the outline dimensions of a mechanical component from three perspectives: front, side, and top.

- Front View:** Shows a central rectangular area with a width of 12.00 and a height of 7.00. The overall width is 15.60, and the overall height is 42.60. Key features include a central circular hole with a diameter of $\phi 5.50$, four smaller holes with diameters of $\phi 1.50$ and $\phi 3.50$, and rounded corners with radii of R0.50. Dimension lines indicate various heights and widths across the component.
- Side View:** Shows the profile of the component with a total width of 4.80 and a total height of 17.00. It highlights the thickness of the base and the position of the central hole.
- Top View:** Shows the component from above, with a square footprint of 13.50 by 13.50. It details the positions of the four corner holes and the central hole, along with the distances between them.

Key dimensions and tolerances shown include:

- Overall width: 15.60
- Overall height: 42.60
- Central hole diameter: $\phi 5.50$
- Corner hole diameters: $\phi 1.50$ and $\phi 3.50$
- Rounded corners: R0.50
- Base thickness: 2.00
- Dimensional tolerances: ± 0.005 , ± 0.01 , and ± 0.05 .

Silicon NPN Power Transistors

2SC3685

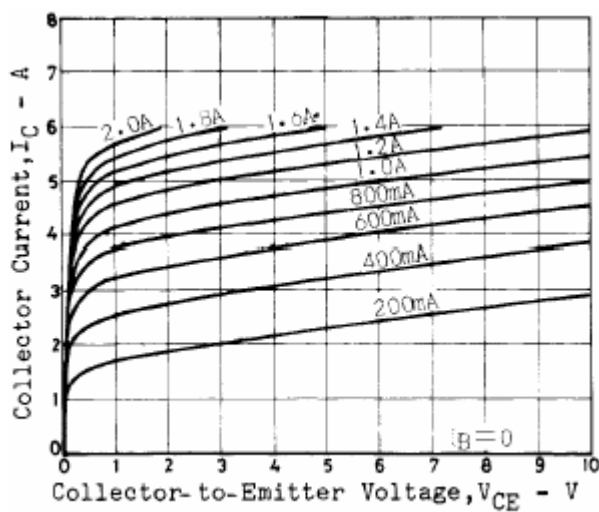


Fig.3 Static Characteristic

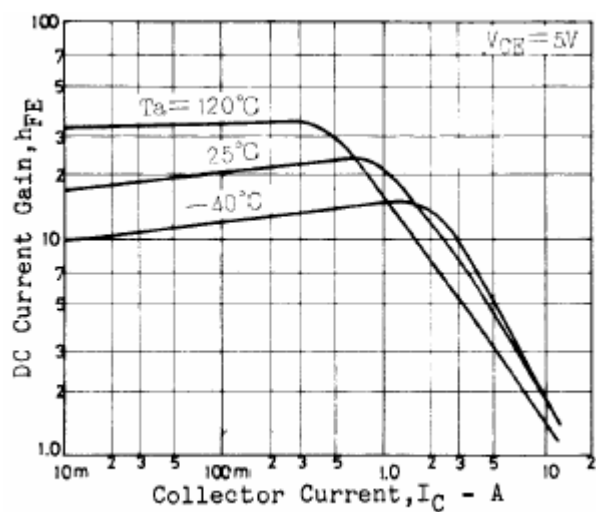


Fig.4 DC current Gain

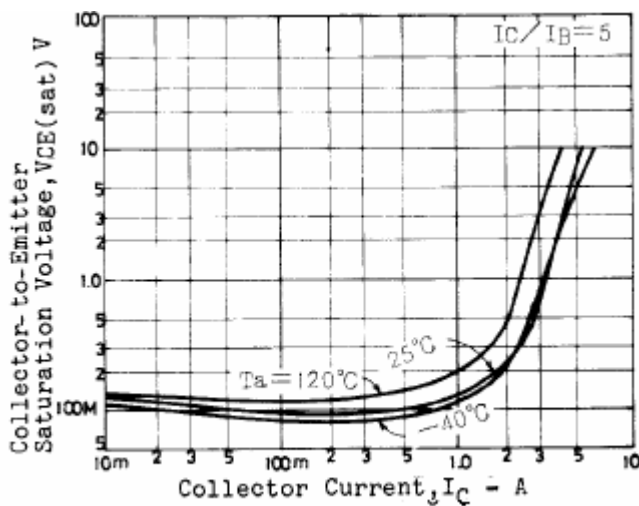


Fig.5 Collector-Emitter Saturation Voltage

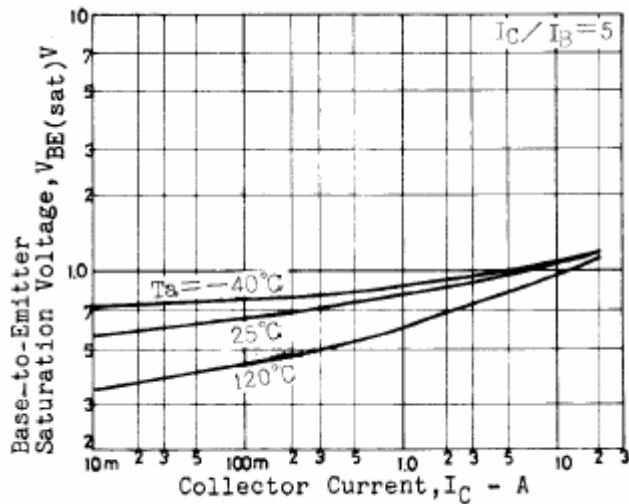


Fig.6 Base-Emitter Saturation Voltage

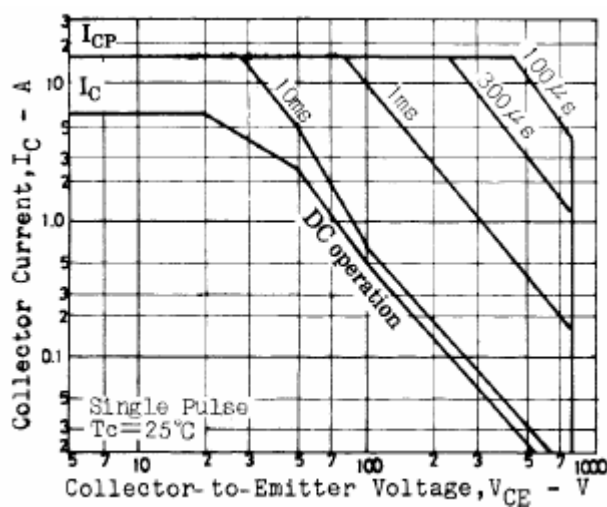


Fig.7 Safe Operating Area