

Silicon NPN Power Transistors

2SC5200

DESCRIPTION

- With TO-3PL package
- Complement to type 2SA1943

APPLICATIONS

- High current switching
- Recommended for 100W high fidelity audio frequency amplifier output stage

PINNING

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

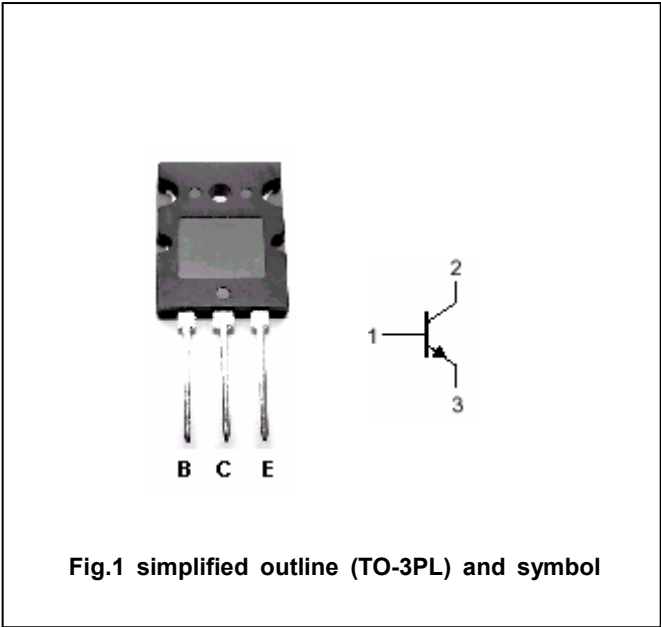


Fig.1 simplified outline (TO-3PL) and symbol

Absolute maximum ratings (Ta=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	230	V
V_{CEO}	Collector-emitter voltage	Open base	230	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		15	A
I_B	Base current		1.5	A
P_C	Collector power dissipation	$T_C=25^{\circ}\text{C}$	150	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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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	$I_C=50mA ; I_B=0$	230			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=8A ; I_B=0.8A$			3.0	V
V_{BE}	Base-emitter voltage	$I_C=7A ; V_{CE}=5V$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=230V ; I_E=0$			5	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V ; I_C=0$			5	μA
h_{FE-1}	DC current gain	$I_C=1A ; V_{CE}=5V$	55		160	
h_{FE-2}	DC current gain	$I_C=7A ; V_{CE}=5V$	35			
f_T	Transition frequency	$I_C=1A ; V_{CE}=5V$		30		MHz
C_{OB}	Collector output capacitance	$f=1MHz ; V_{CB}=10V$		200		pF

◆ h_{FE-1} classifications

R	O
55-100	80-160

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Technical drawing of a mechanical part, showing front, side, and bottom views with dimensions.

Front View Dimensions:

- Overall width: 20.00 ± 0.2
- Top hole spacing: 18.00 (between first two holes), 8.00 (between second and third holes)
- Top hole diameter: $\phi 3.30 \pm 0.2$
- Top hole diameter (bottom view): $3 \times \phi 2.00$
- Top hole diameter (bottom view): 15.00°
- Top hole diameter (bottom view): 1.00
- Top hole diameter (bottom view): 2.50
- Top hole diameter (bottom view): 3.00
- Top hole diameter (bottom view): 40.00
- Top hole diameter (bottom view): 40.50
- Top hole diameter (bottom view): 17.50
- Top hole diameter (bottom view): 20.00
- Top hole diameter (bottom view): 22.50
- Top hole diameter (bottom view): 9.70
- Top hole diameter (bottom view): 4.40
- Top hole diameter (bottom view): 6.00
- Top hole diameter (bottom view): 4.00
- Top hole diameter (bottom view): 0.00
- Top hole diameter (bottom view): 2.00
- Top hole diameter (bottom view): 9.00
- Top hole diameter (bottom view): R0.50
- Top hole diameter (bottom view): 13.00

Side View Dimensions:

- Overall height: 5.00
- Top hole diameter: 3.00
- Top hole diameter: 0.60
- Top hole diameter: 3.20

Bottom View Dimensions:

- Overall width: 20.00
- Overall height: 10.00
- Top hole diameter: 3.00
- Top hole diameter: 0.60
- Top hole diameter: 3.20

Fig.2 Outline dimensions (unindicated tolerance:±0.50mm)

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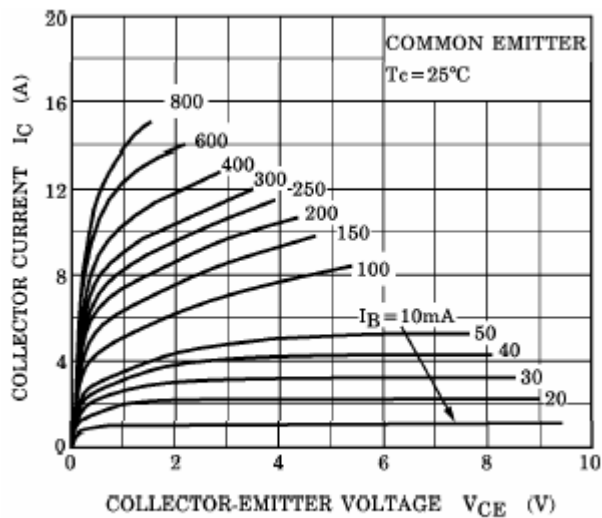


Fig.3 Static Characteristic

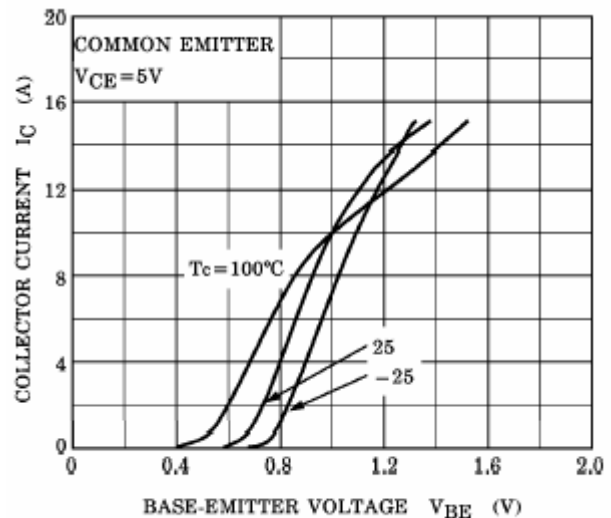


Fig.4 Base-Emitter On Voltage

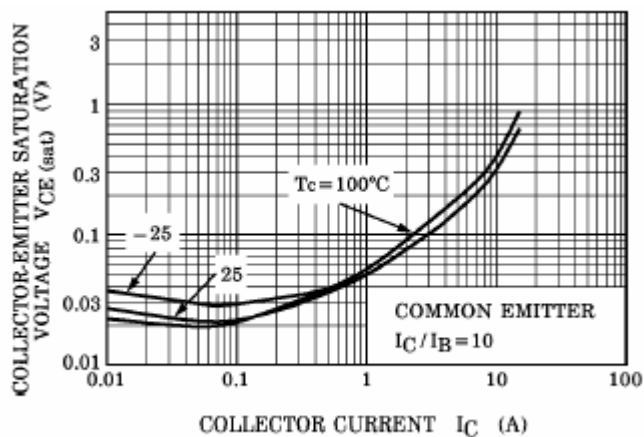


Fig.5 Collector-Emitter Saturation Voltage

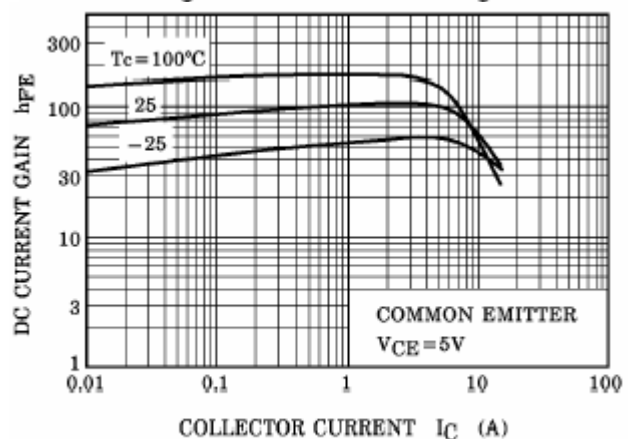


Fig.6 DC current Gain

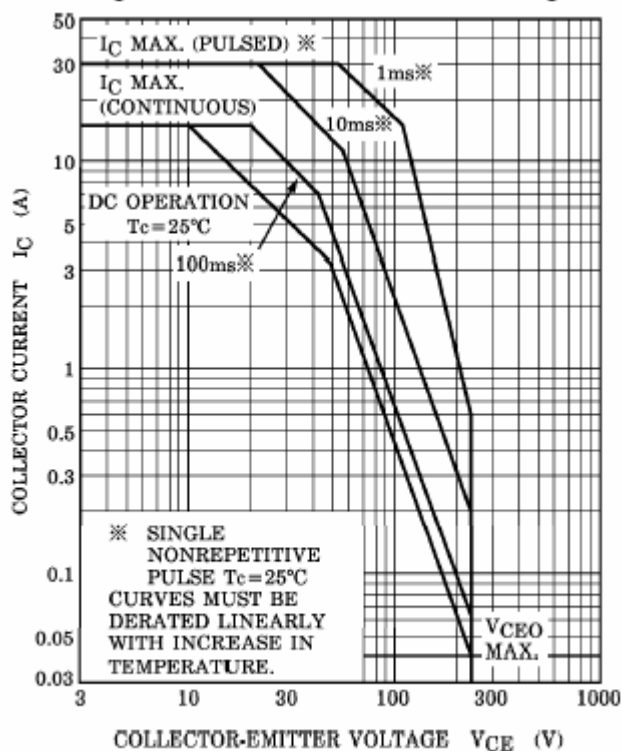


Fig.7 Safe Operating Area