

**Silicon NPN Power Transistors**

**2SC2591 2SC2592**

**DESCRIPTION**

- With TO-220 package
- Complement to type 2SA1111/1112
- Good linearity of  $h_{FE}$
- High  $V_{CEO}$

**APPLICATIONS**

- For audio frequency, high power amplifiers application

**PINNING**

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

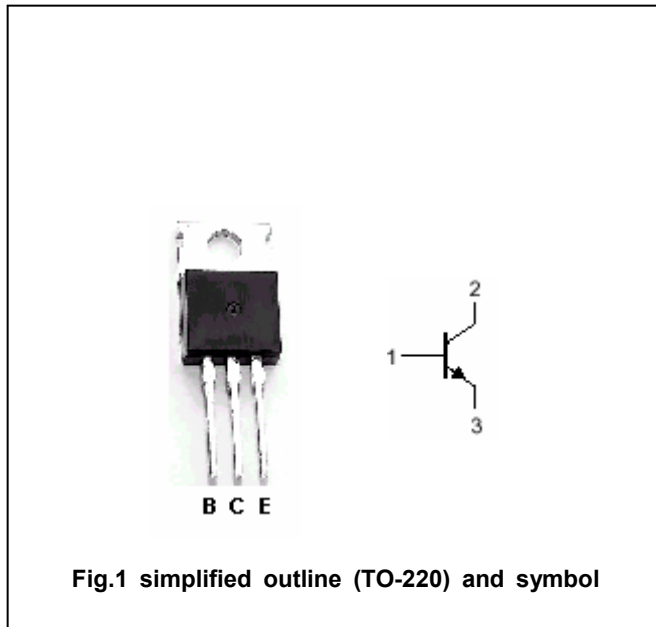


Fig.1 simplified outline (TO-220) and symbol

**ABSOLUTE MAXIMUM RATINGS( $T_c=25^\circ$ )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	2SC2591	150	V
		2SC2592	180	
$V_{CEO}$	Collector-emitter voltage	2SC2591	150	V
		2SC2592	180	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		1	A
$I_{CM}$	Collector current-peak		1.5	A
$P_C$	Collector power dissipation	$T_c=25^\circ$	20	W
$T_j$	Junction temperature		150	$^\circ$
$T_{stg}$	Storage temperature		-55~150	$^\circ$

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	2SC2591	I <sub>C</sub> =0.1mA, I <sub>B</sub> =0	150			V
		2SC2592		180			
V <sub>EBO</sub>	Emitter-base breakdown voltage		I <sub>E</sub> =10μA, I <sub>C</sub> =0	5			V
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =0.5A; I <sub>B</sub> =50mA		0.5	2.0	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage		I <sub>C</sub> =0.5A; I <sub>B</sub> =50mA		1.0	2.0	V
I <sub>CBO</sub>	Collector cut-off current		V <sub>CB</sub> =120V; I <sub>E</sub> =0			1	μA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =4V; I <sub>C</sub> =0			1	μA
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =150mA; V <sub>CE</sub> =10V	90		330	
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =500mA; V <sub>CE</sub> =5V	50			
C <sub>OB</sub>	Output capacitance		I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		20		pF
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =50mA; V <sub>CE</sub> =10V		200		MHz

◆ h<sub>FE-1</sub> Classifications

Q	R	S
90-155	130-220	185-330



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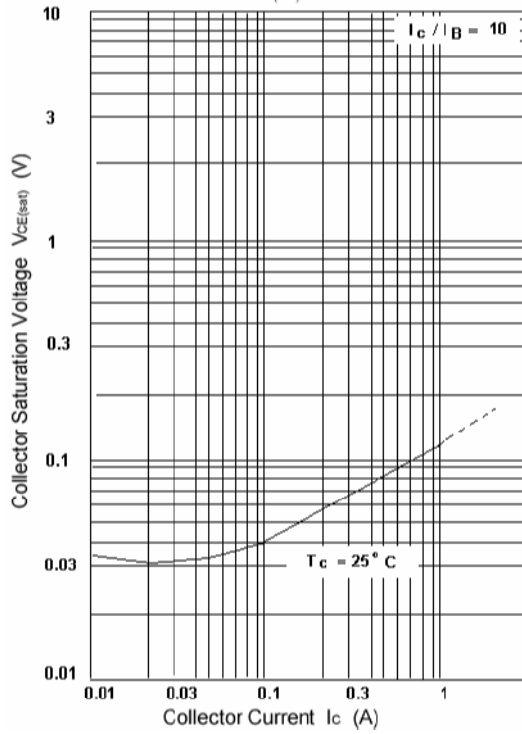


Fig.3 Collector-Emitter Saturation Voltage

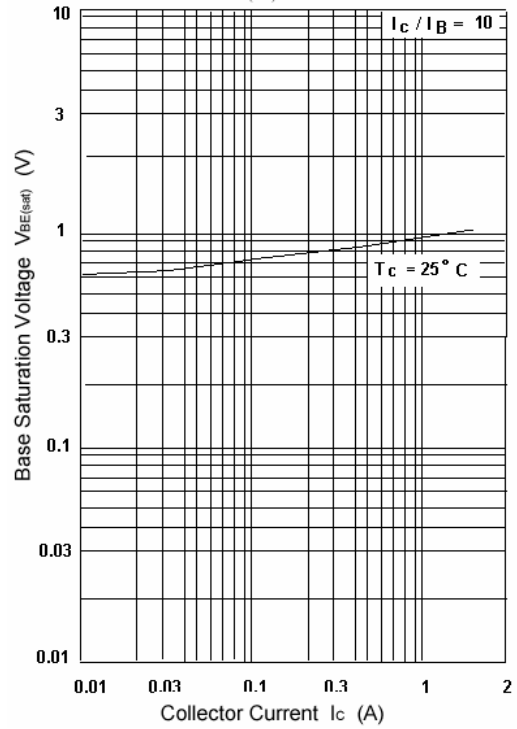


Fig.4 Base-Emitter Saturation Voltage

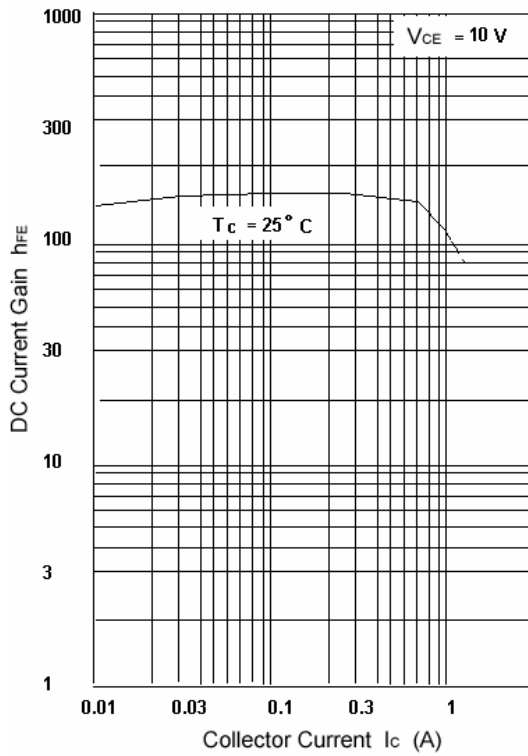


Fig.5 DC current Gain

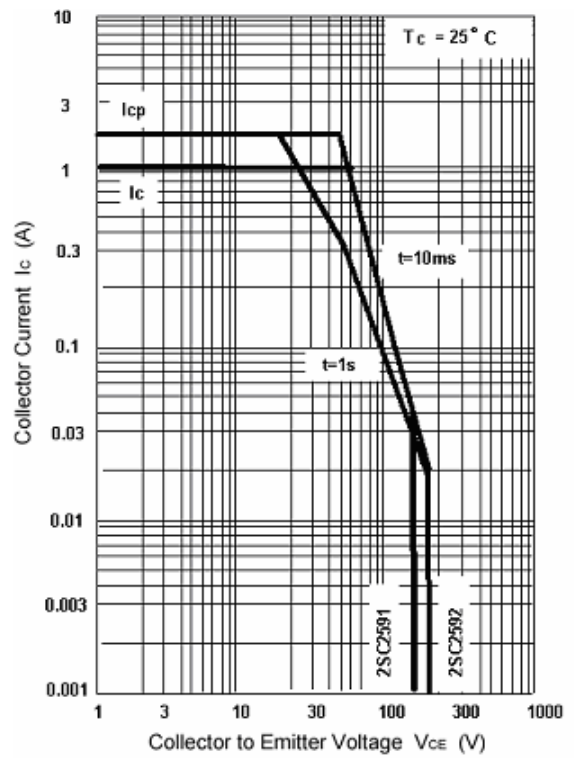


Fig.6 Safe Operating Area