

## Silicon NPN Power Transistors

## 2N6294 2N6295

**DESCRIPTION**

- With TO-66 package
- DARLINGTON
- Complement to type 2N6296/6297

**APPLICATIONS**

- For high gain amplifier and medium speed switching applications

**PINNING (See Fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

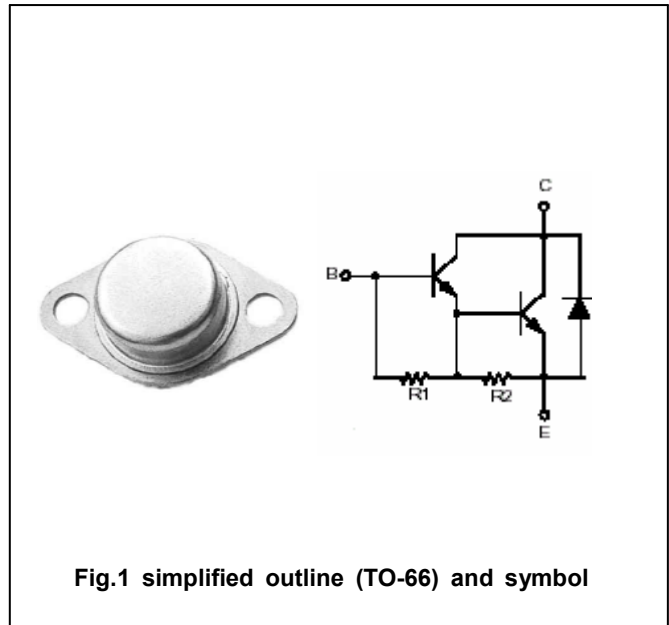


Fig.1 simplified outline (TO-66) and symbol

**Absolute maximum ratings(Ta=25□)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2N6294	60	V
		2N6295	80	
V <sub>CEO</sub>	Collector-emitter voltage	2N6294	60	V
		2N6295	80	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		4	A
I <sub>CM</sub>	Collector current-Peak		8	A
I <sub>B</sub>	Base current		80	mA
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25□	50	W
T <sub>j</sub>	Junction temperature		150	□
T <sub>stg</sub>	Storage temperature		-65~200	□

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance from junction to case	3.5	□/W

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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	2N6294	I <sub>C</sub> =50mA ; I <sub>B</sub> =0	60			V
		2N6295		80			
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =2A ; I <sub>B</sub> =8mA			2.0	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =4A ; I <sub>B</sub> =40mA			3.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =4A ; I <sub>B</sub> =40mA			4.0	V
V <sub>BE</sub>	Base -emitter on voltage		I <sub>C</sub> =2A ; V <sub>CE</sub> =3V			2.8	V
I <sub>CEX</sub>	Collector cut-off current		V <sub>CE</sub> =Rated V <sub>CE</sub> ; V <sub>BE(off)</sub> =1.5V T <sub>C</sub> =150 °C			0.5 5.0	mA
I <sub>CEO</sub>	Collector cut-off current		V <sub>CE</sub> =1/2 Rated V <sub>CE0</sub> ; I <sub>B</sub> =0			0.5	mA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			2.0	mA
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =2A ; V <sub>CE</sub> =3V	750		18000	
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =4A ; V <sub>CE</sub> =3V	100			
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =1.5A ; V <sub>CE</sub> =3V; f=1.0MHz	4.0			MHz
C <sub>OB</sub>	Output capacitance		I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=0.1MHz			120	pF

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PACKAGE OUTLINE



Fig.2 Outline dimensions

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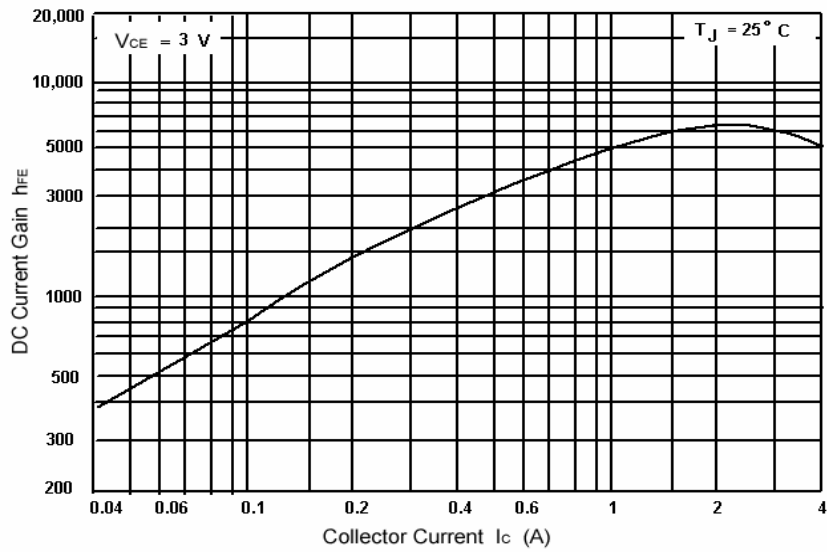


Fig.3 DC current Gain

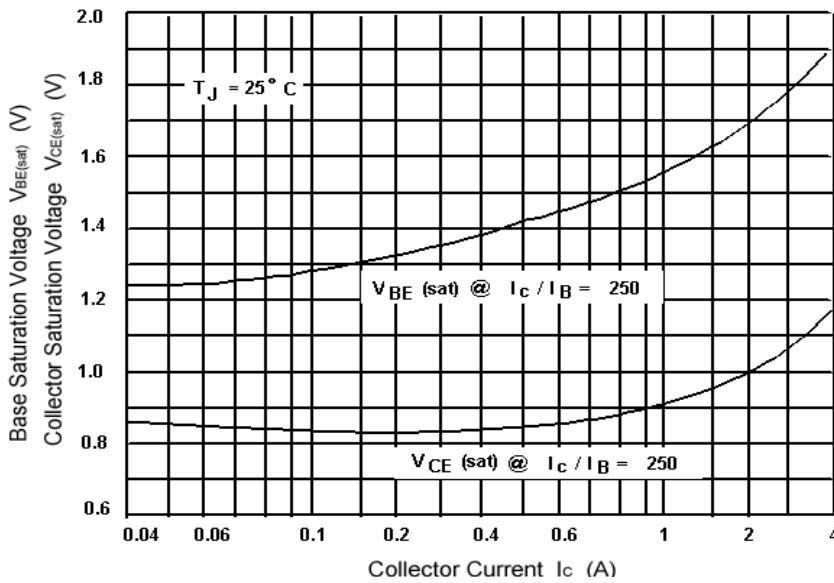


Fig.4 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

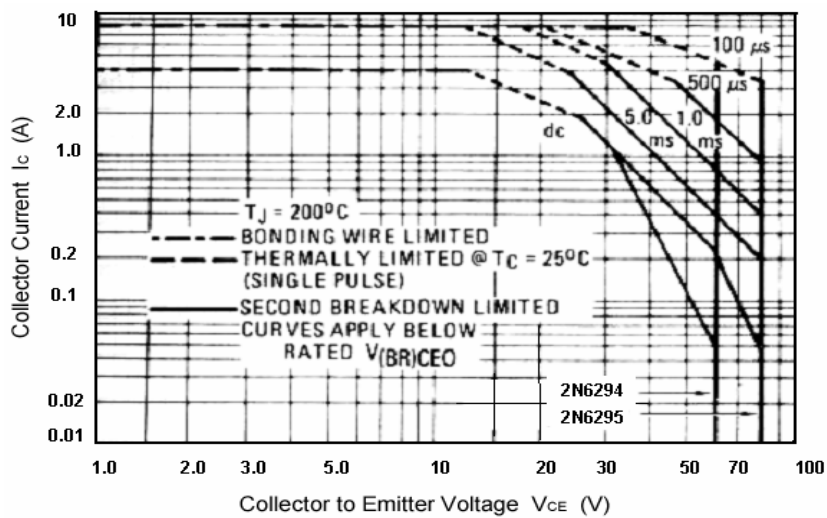


Fig.5 Safe Operating Area