

## Silicon PNP Power Transistors

## 2N5883 2N5884

## DESCRIPTION

- With TO-3 package
- Complement to type 2N5885 2N5886

## APPLICATIONS

- They are intended for use in power linear and switching applications

## PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

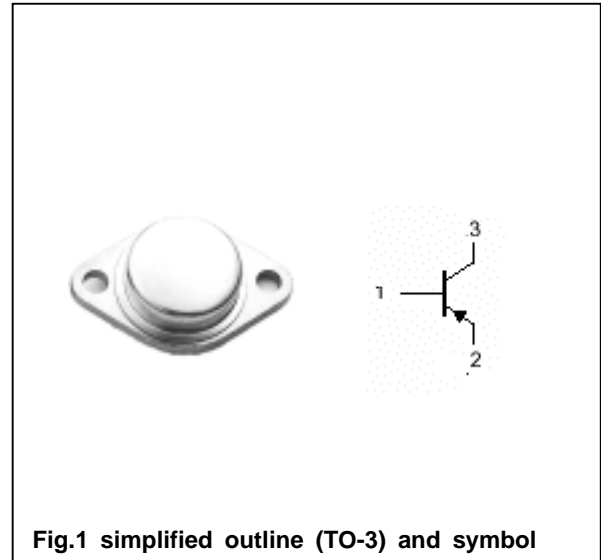


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a =$  )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT	
$V_{CBO}$	Collector-base voltage	2N5883	Open emitter	60	V
		2N5884		80	
$V_{CEO}$	Collector-emitter voltage	2N5883	Open base	60	V
		2N5884		80	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V	
$I_C$	Collector current		25	A	
$I_{CM}$	Collector current-peak		50	A	
$I_B$	Base current		7.5	A	
$P_D$	Total Power Dissipation	$T_C=25$	200	W	
$T_j$	Junction temperature		200		
$T_{stg}$	Storage temperature		-65~200		

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	0.875	/W

## Silicon PNP Power Transistors

## 2N5883 2N5884

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(sus)</sub>	Collector-emitter sustaining voltage	2N5883	I <sub>C</sub> =0.2A ; I <sub>B</sub> =0			V
		2N5884				
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =15A; I <sub>B</sub> =1.5A			1	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =25A ; I <sub>B</sub> =6.25A			4	V
V <sub>BEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =25A ; I <sub>B</sub> =6.25A			2.5	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =10A ; V <sub>CE</sub> =4V			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =ratedV <sub>CBO</sub> ; I <sub>B</sub> =0			1	mA
I <sub>CEO</sub>	Collector cut-off current	2N5883			2	mA
		2N5884				
I <sub>CEV</sub>	Collector cut-off current (V <sub>BE(off)</sub> =1.5V)	V <sub>CE</sub> =ratedV <sub>CEO</sub> ;			1	mA
		V <sub>CE</sub> =ratedV <sub>CEO</sub> ; T <sub>C</sub> =150			10	
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =3A ; V <sub>CE</sub> =4V	35			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =10A ; V <sub>CE</sub> =4V	20		100	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =25A ; V <sub>CE</sub> =4V	4			
f <sub>T</sub>	Transistion frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V;f=1MHz	4			MHz
C <sub>cbo</sub>	Collector base capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V;f=1MHz			500	pF

## Switching times

t <sub>r</sub>	Rise time	I <sub>C</sub> =10A ; I <sub>B1</sub> =- I <sub>B2</sub> =1A V <sub>CC</sub> =30V			0.7	μs
t <sub>s</sub>	Storage time				1	μs
t <sub>f</sub>	Fall time				0.8	μs

Silicon PNP Power Transistors

2N5883 2N5884

PACKAGE OUTLINE

