

Silicon PNP Power Transistors

2N5883 2N5884

DESCRIPTION

- With TO-3 package
- Complement to type 2N5885 2N5886
- High power dissipations

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

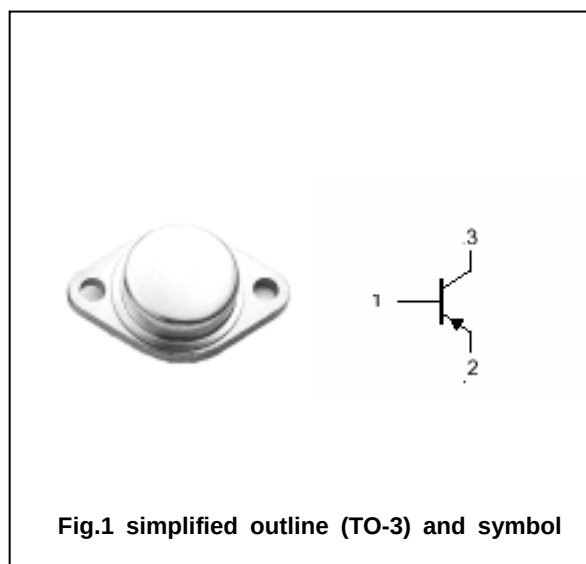


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings($T_a = ^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5883	-60	V
		2N5884	-80	
V_{CEO}	Collector-emitter voltage	2N5883	-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	$T_C = 25^\circ\text{C}$	200	W
T_j	Junction temperature		200	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	2N5883	I _C =-0.2A ; I _B =0	-60			V
		2N5884		-80			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =-15A; I _B =-1.5A			-1	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =-25A ; I _B =-6.25A			-4	V
V _{BEsat}	Base-emitter saturation voltage		I _C =-25A ; I _B =-6.25A			-2.5	V
V _{BE}	Base-emitter on voltage		I _C =-10A ; V _{CE} =-4V			-1.5	V
I _{CBO}	Collector cut-off current		V _{CB} =ratedV _{CEO} ; I _B =0			-1	mA
I _{CEO}	Collector cut-off current	2N5883	V _{CE} =-30V; I _B =0			-2	mA
		2N5884	V _{CE} =-40V; I _B =0				
I _{CEV}	Collector cut-off current (V _{BE(off)} =1.5V)		V _{CE} =ratedV _{CEO} ;			-1	mA
			V _{CE} =ratedV _{CEO} ; T _C =150°C			-10	
I _{EBO}	Emitter cut-off current		V _{EB} =-5V; I _C =0			-1	mA
h _{FE-1}	DC current gain		I _C =-3A ; V _{CE} =-V	35			
h _{FE-2}	DC current gain		I _C =-10A ; V _{CE} =-4V	20		100	
h _{FE-3}	DC current gain		I _C =-25A ; V _{CE} =-4V	4			
f _T	Transisition frequency		I _C =-1A ; V _{CE} =-10V;f=1MHz	4			MHz
C _{cb}	Collector base capacitance		I _E =0; V _{CB} =-10V;f=1MHz			500	pF

Switching times

t _r	Rise time	I _C =-10A ; I _{B1} =- I _{B2} =-1A V _{CC} =-30V			0.7	μs
t _s	Storage time				1.0	μs
t _f	Fall time				0.8	μs

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PACKAGE OUTLINE

