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

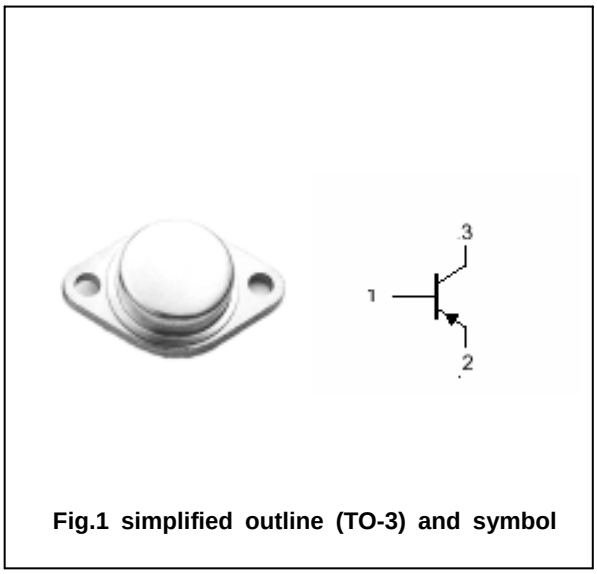


Fig.1 simplified outline (TO-3) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings(Ta=℃)

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
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	0.875	℃/W

固电半导体 INCHANGE SEMICONDUCTOR

Silicon PNP Power Transistors 2N5883 2N5884

CHARACTERISTICS

Tj=25℃ unless otherwise specified

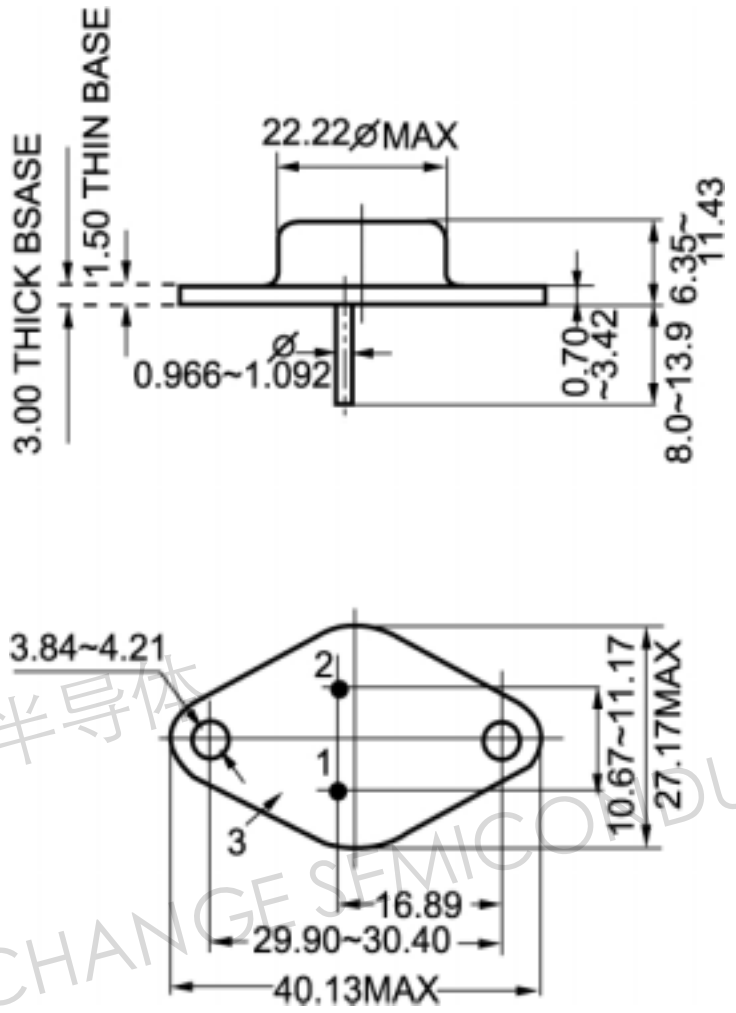
SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	2N5883	I_C=-0.2A ;I_B=0	-60			V
		2N5884		-80			
$V_{CEsat-1}$	Collector-emitter saturation voltage		I_C=-15A; I_B=-1.5A			-1	V
$V_{CEsat-2}$	Collector-emitter saturation voltage		I_C=-25A ;I_B=-6.25A			-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_{CBO}; 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℃			-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	Trainsistion 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

固电半导体 INCHANGE SEMICONDUCTOR

PACKAGE OUTLINE



固电半导体 INCHANGE SEMICONDUCTOR

Fig.2 outline dimensions (unindicated tolerance:±0.10mm)