Silicon NPN Power Transistors 2N5885 2N5886

DESCRIPTION

- With TO-3 package
- Complement to type 2N5883 2N5884
- High power dissipations

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

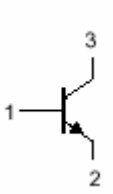

Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5885	Open emitter	60	V
		2N5886		80	
V_{CEO}	Collector-emitter voltage	2N5885	Open base	60	V
		2N5886		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

CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	2N5885	I_C=0.2A ;I_B=0	60			V
		2N5886		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	2N5885	V_{CE}=30V; I_B=0			2	mA
		2N5886	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	mA
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}=4V	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

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

PACKAGE OUTLINE

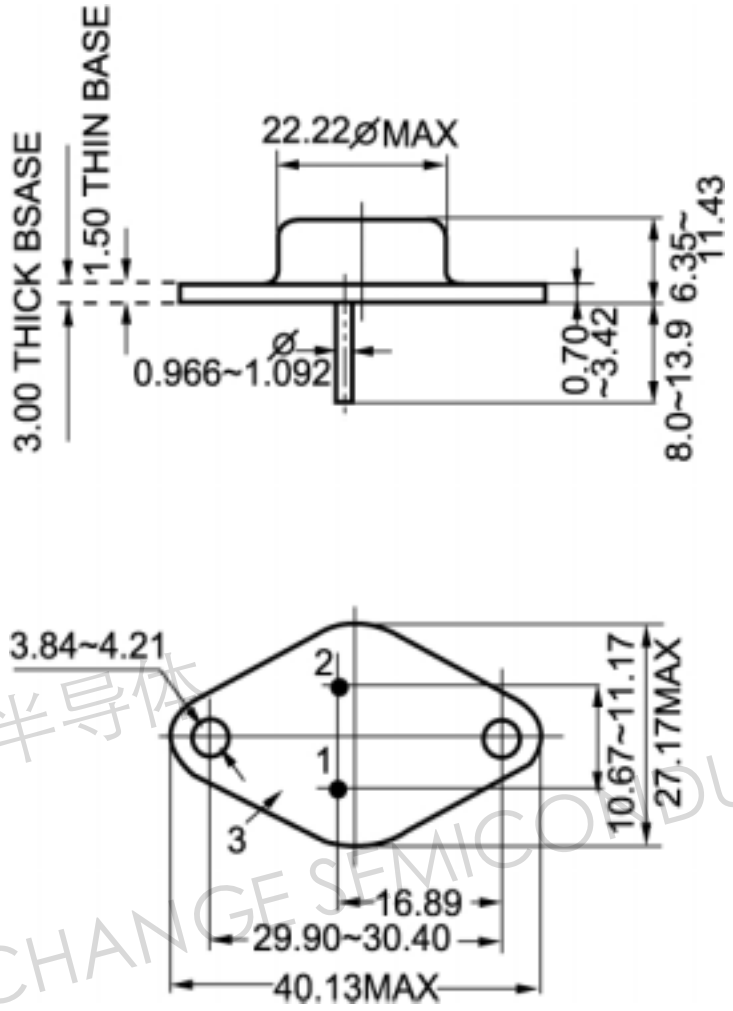

Fig.2 outline dimensions (unindicated tolerance:±0.10mm)