Silicon NPN Power Transistors 2SC4510

DESCRIPTION

- With TO-3PML package
- High voltage ,high speed switching
- Low collector saturation voltage

APPLICATIONS

- Switching regulators
- DC-DC convertors
- Solid state relay
- General purpose power amplifiers

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

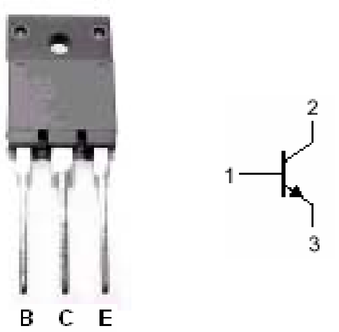

Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings(Tc=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	500	V
V_{CEO}	Collector-emitter voltage	Open base	400	V
V_{EBO}	Emitter-base voltage	Open collector	10	V
I_C	Collector current		15	A
I_B	Base current		5	A
P_C	Collector power dissipation	T_C=25℃	80	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}C}$	Thermal resistance junction case	1.56	℃/W

CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=1mA; I_E=0	500			V
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	I_C=0.2A; I_B=0	400			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=1mA; I_C=0	10			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=6A; I_B=1.2A			0.8	V
V_{BEsat}	Base-emitter saturation voltage	I_C=6A; I_B=1.2A			1.2	V
I_{CBO}	Collector cut-off current	V_{CB}=450V; I_E=0			100	μA
I_{EBO}	Emitter cut-off current	V_{EB}=10V; I_C=0			100	μA
h_{FE}	DC current gain	I_C=2A ; V_{CE}=5V	25		65	

Switching times

t_{on}	Turn-on time	I_C=7.5A;R_L=20Ω I_{B1}=0.75A; I_{B2}=-1.5A Pw = 20μs; Duty≤2%			1.0	μs
t_{stg}	Storage time				2.5	μs
t_f	Fall time				0.5	μs

PACKAGE OUTLINE

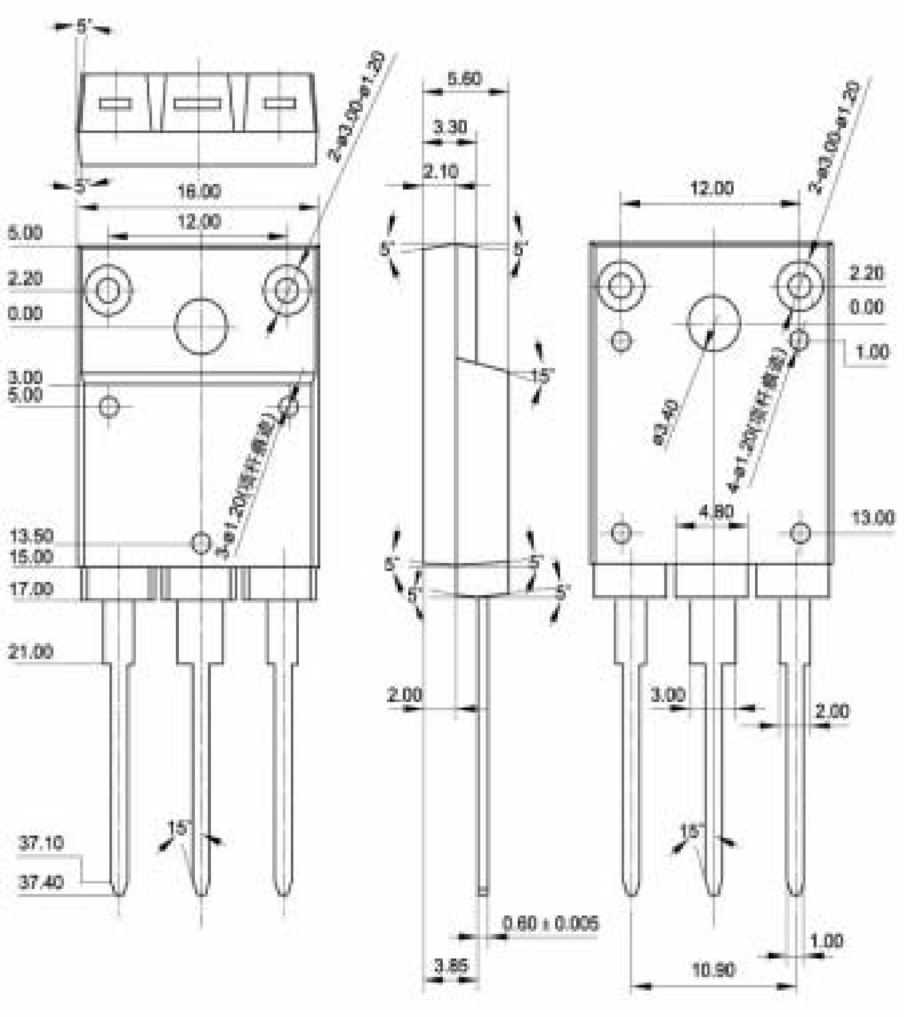

Fig.2 Outline dimensions

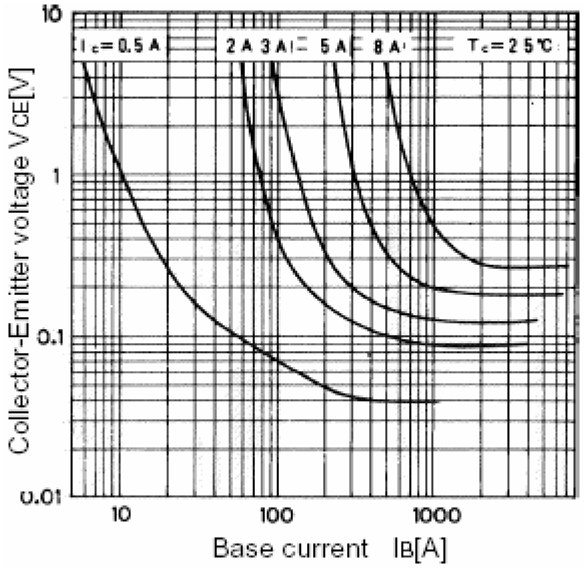

Fig.3 Static Characteristic

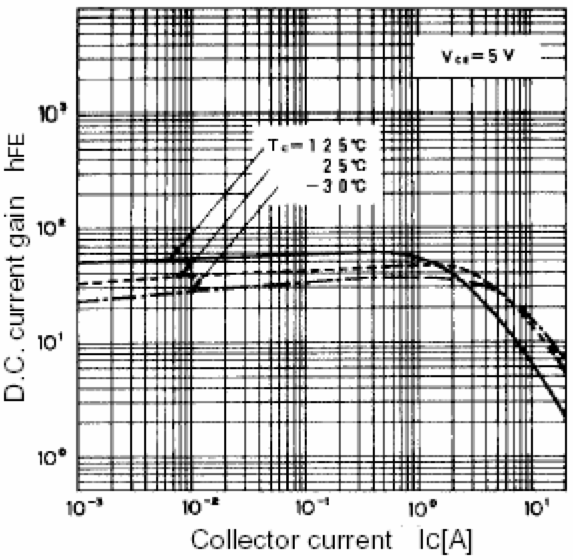

Fig.4 DC current Gain

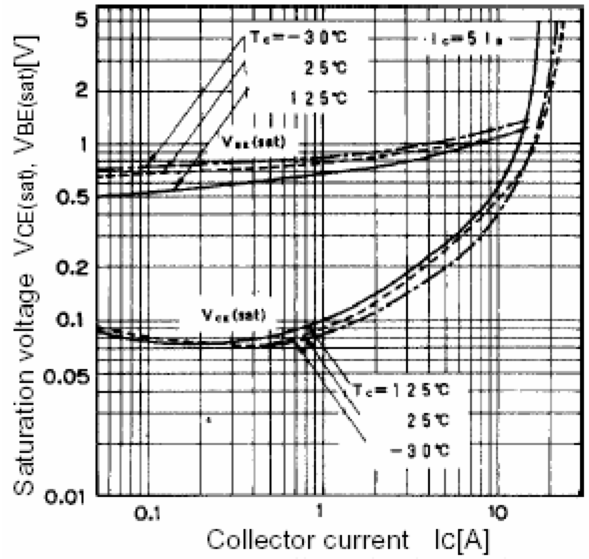

Fig.5 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

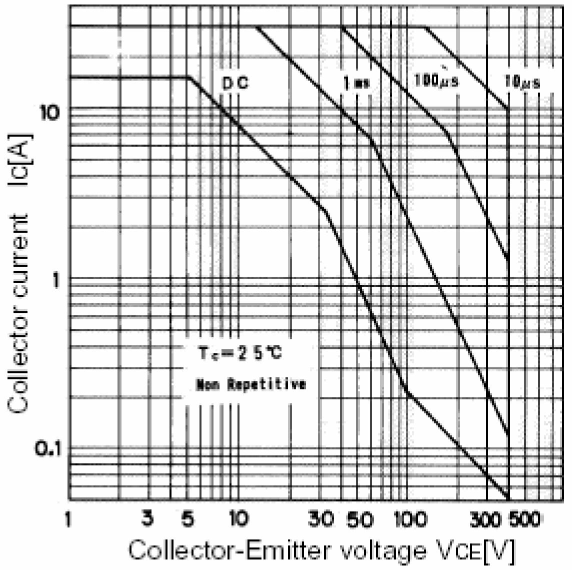

Fig.6 Safe Operating Area