

Silicon PNP Power Transistors

2SA1746

DESCRIPTION

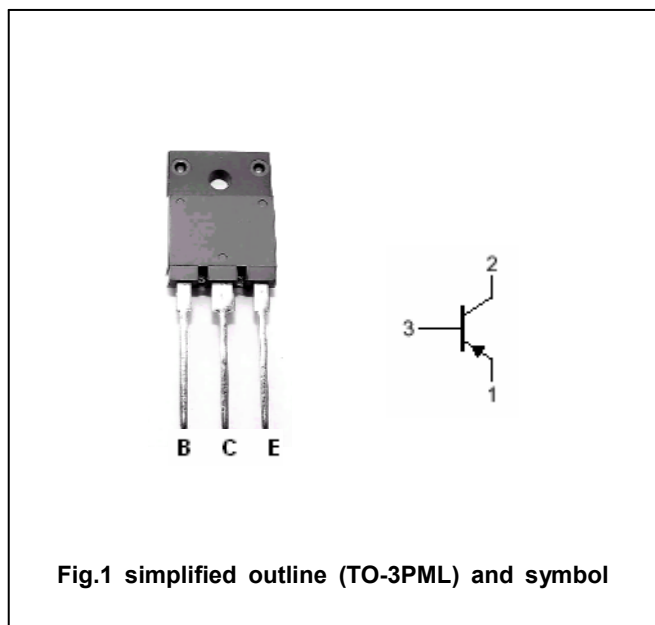
- With TO-3PML package
- Low collector saturation voltage

APPLICATIONS

- For chopper regulator, switch and general purpose applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

Absolute maximum ratings($T_c=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-70	V
V_{CEO}	Collector-emitter voltage	Open base	-50	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current		-12	A
I_{CM}	Collector current-peak		-20	A
I_B	Base current		-4	A
P_C	Collector power dissipation	$T_c=25$	60	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-25mA; I_B=0$	-50			V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=-5A; I_B=-80mA$			-0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=-5A; I_B=-80mA$			-1.2	V
I_{CBO}	Collector cut-off current	$V_{CB}=-70V; I_E=0$			-10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=-6V; I_C=0$			-10	μA
h_{FE}	DC current gain	$I_C=-5A; V_{CE}=-1V$	50			
f_T	Transition frequency	$I_C=-1A; V_{CE}=-12V$		25		MHz
C_{OB}	Output capacitance	$I_E=0; V_{CB}=-10V; f=1MHz$		400		pF

Switching times

t_{on}	Turn-on time	$I_C=-5A; R_L=4\Omega$ $I_{B1}=-I_{B2}=-80mA$ $V_{CC}=-20V$		0.5		μs
t_s	Storage time			0.6		μs
t_f	Fall time			0.3		μs

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PACKAGE OUTLINE

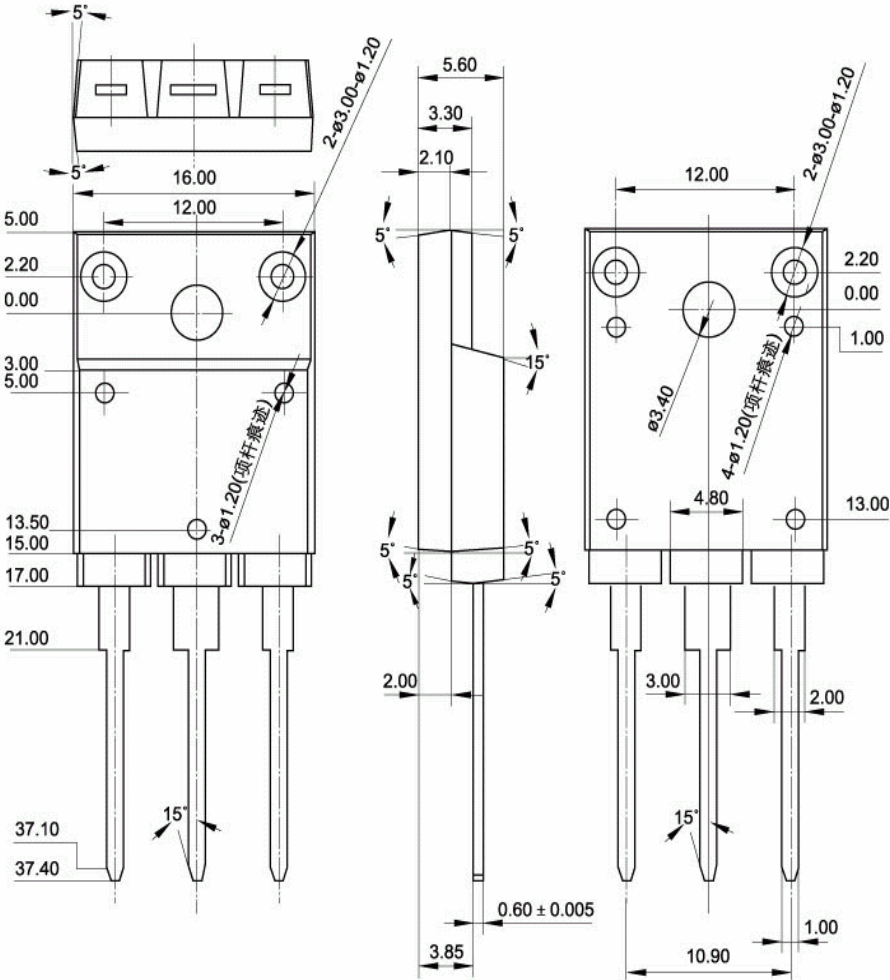


Fig.2 Outline dimensions

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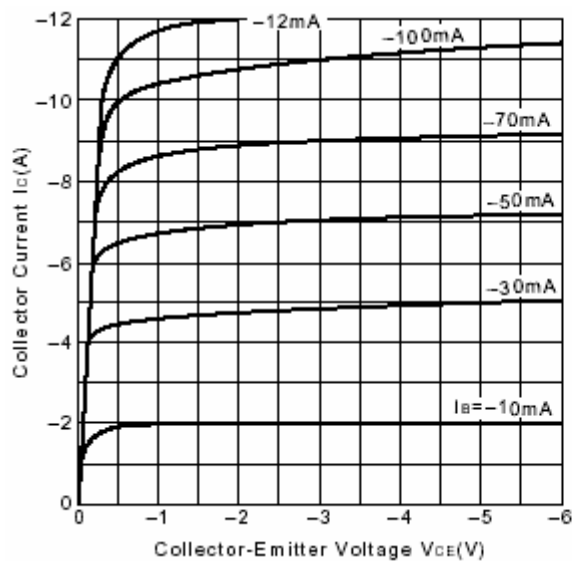


Fig.3 Static Characteristic

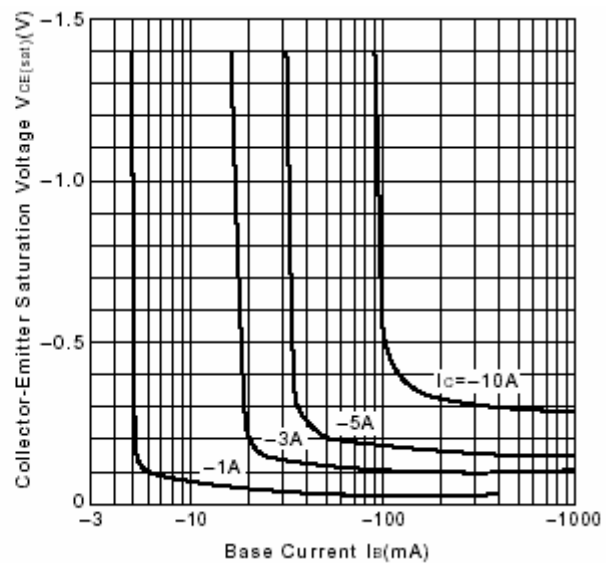
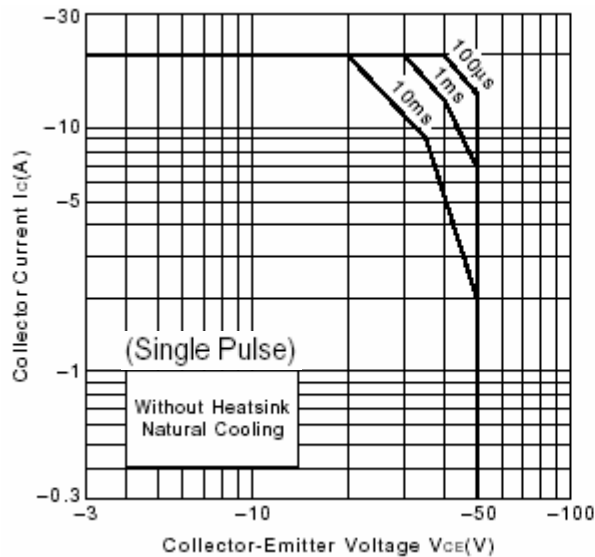
Fig.4 $V_{CE(sat)}-I_B$ Characteristics

Fig.5 Safe Operating Area

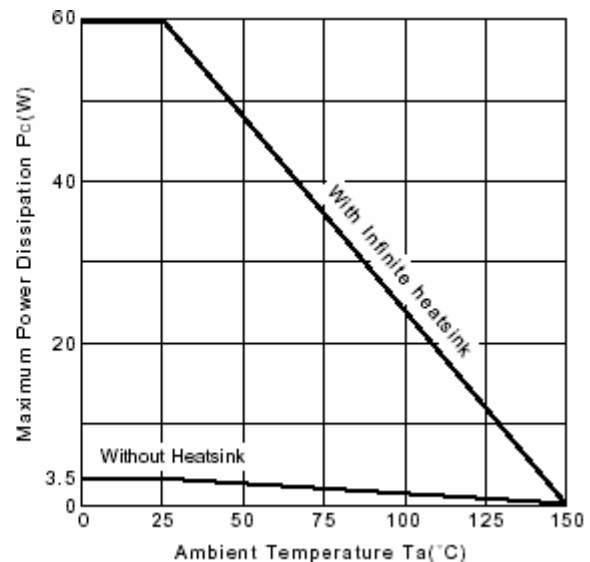
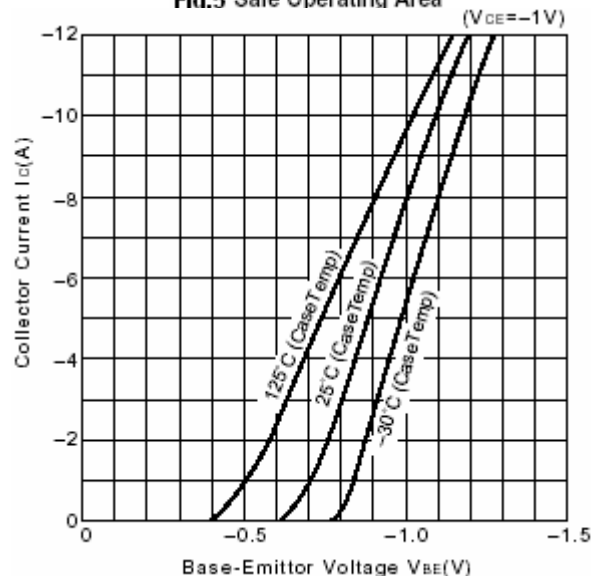
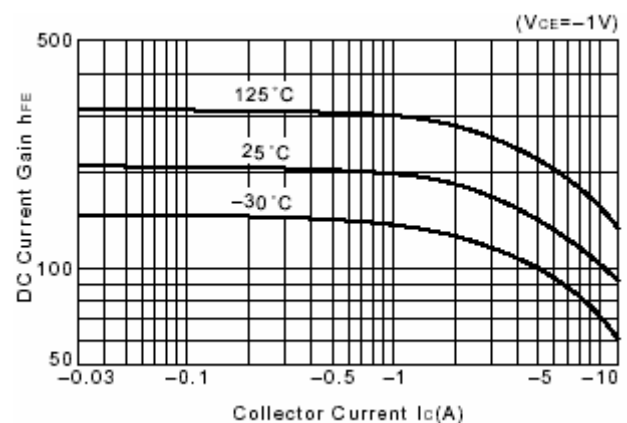
Fig.6 P_C-T_a DeratingFig.7 I_C-V_{BE} 

Fig.8 DC current Gain