

Silicon PNP Power Transistors

2SA1909

DESCRIPTION

- With TO-3PML package
- Complement to type 2SC5101

APPLICATIONS

- Audio and general purpose

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

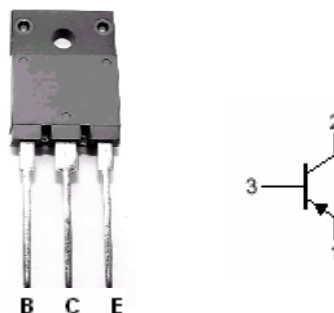


Fig.1 simplified outline (TO-3PML) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-140	V
V_{CEO}	Collector-emitter voltage	Open base	-140	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current		-10	A
I_B	Base current		-4	A
P_C	Collector power dissipation	$T_c=25^\circ\text{C}$	80	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-50mA; I_B=0$	-140			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=-5A; I_B=-0.5A$			-0.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=-140V; I_E=0$			-10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=-6V; I_C=0$			-10	μA
h_{FE}	DC current gain	$I_C=-3A; V_{CE}=-4V$	50		180	
f_T	Transition frequency	$I_C=-0.5A; V_{CE}=-12V$		20		MHz
C_{OB}	Output capacitance	$I_E=0; V_{CB}=-10V; f=1MHz$		400		pF

Switching times

t_{on}	Turn-on time	$I_C=-5A; R_L=12\Omega$ $I_{B1}=-I_{B2}=-0.5A; V_{CC}=-60V$		0.17		μs
t_s	Storage time			1.86		μs
t_f	Fall time			0.27		μs

◆ h_{FE} classifications

O	P	Y
50-100	70-140	90-180

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PACKAGE OUTLINE

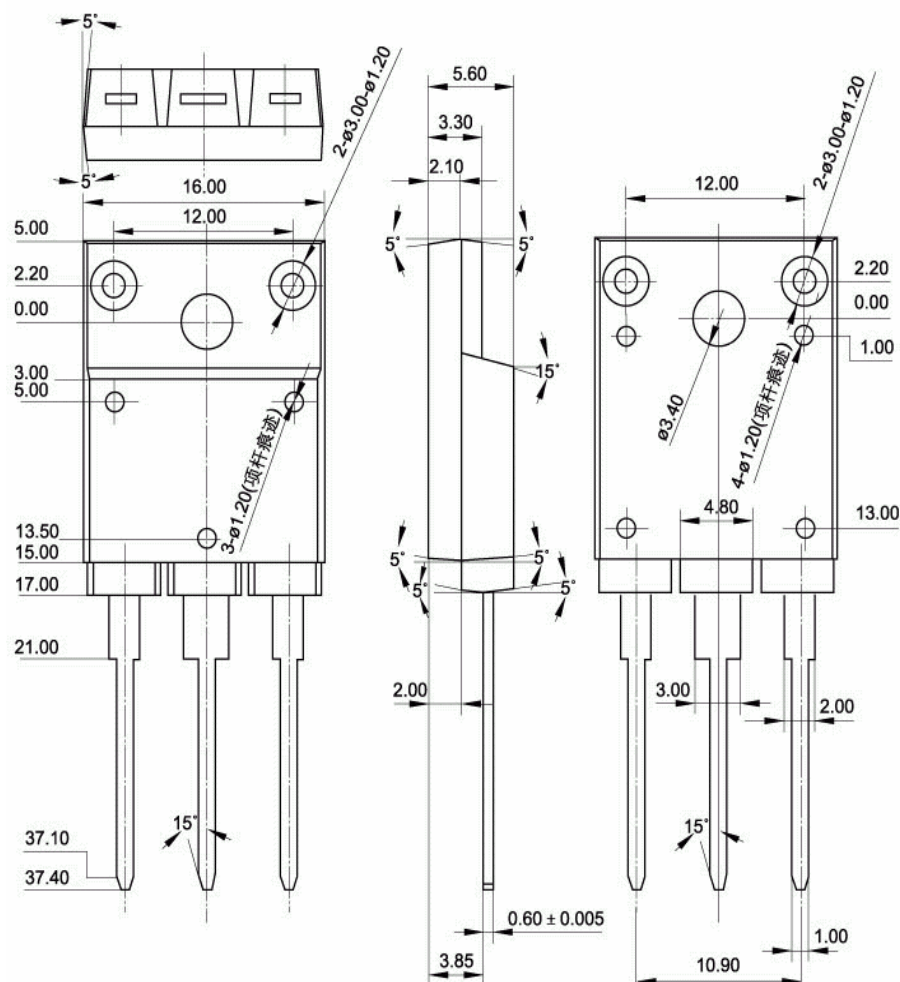


Fig.2 Outline dimensions

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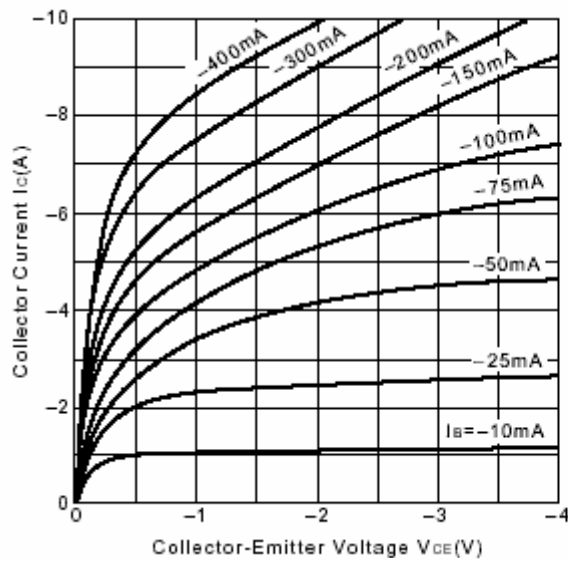


Fig.3 Static Characteristic

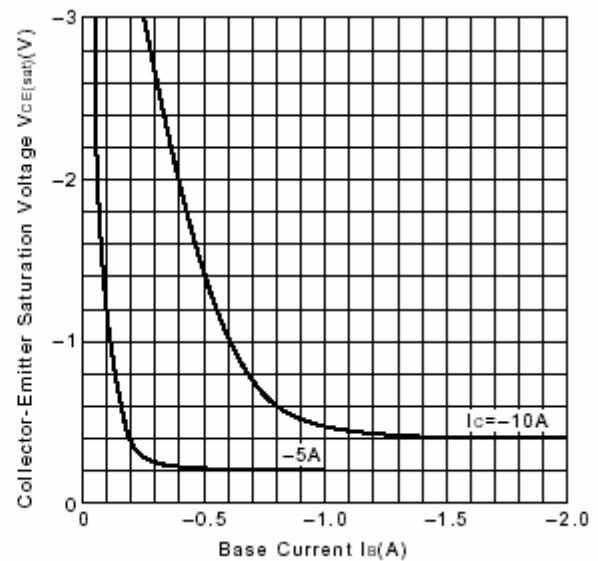
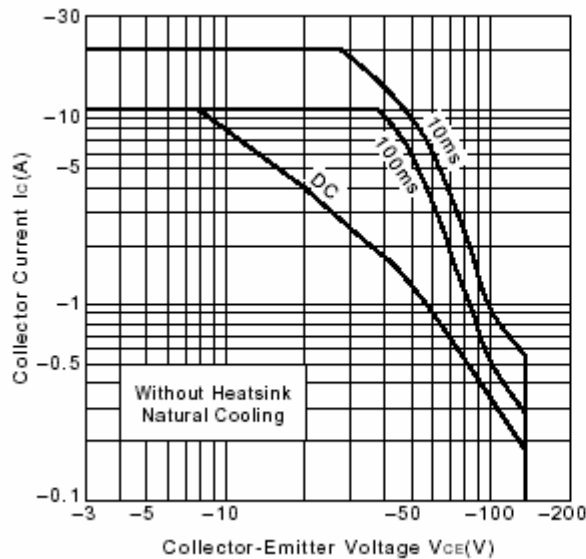
Fig.4 $V_{CE(sat)}$ - I_B Characteristics

Fig.5 Safe Operating Area

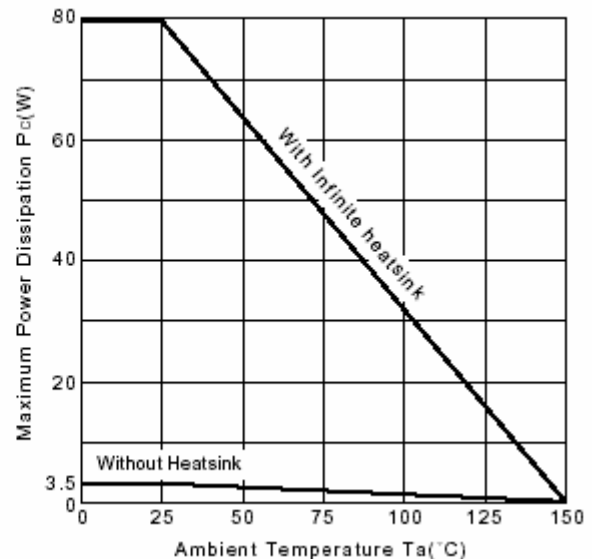
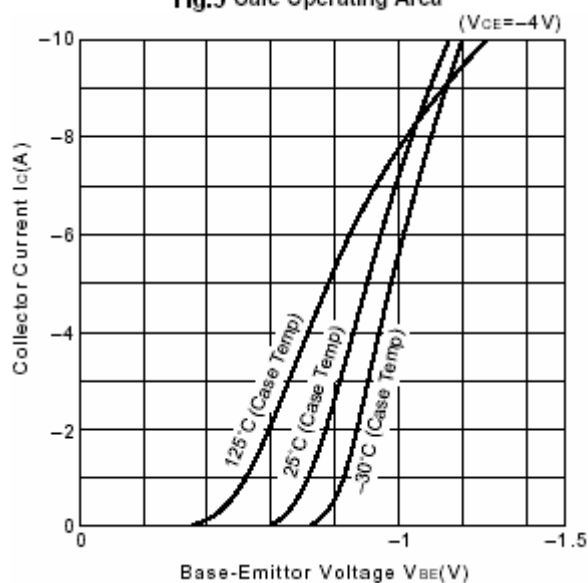
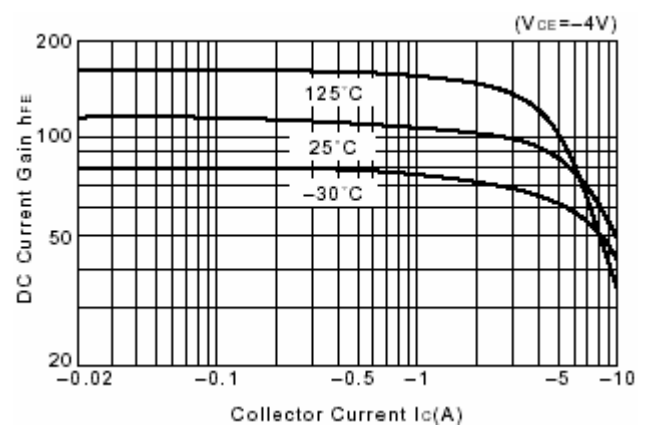
Fig.6 P_c - T_a DeratingFig.7 I_C - V_{BE} 

Fig.8 DC current Gain