

Silicon NPN Power Transistors

2SC4445

DESCRIPTION

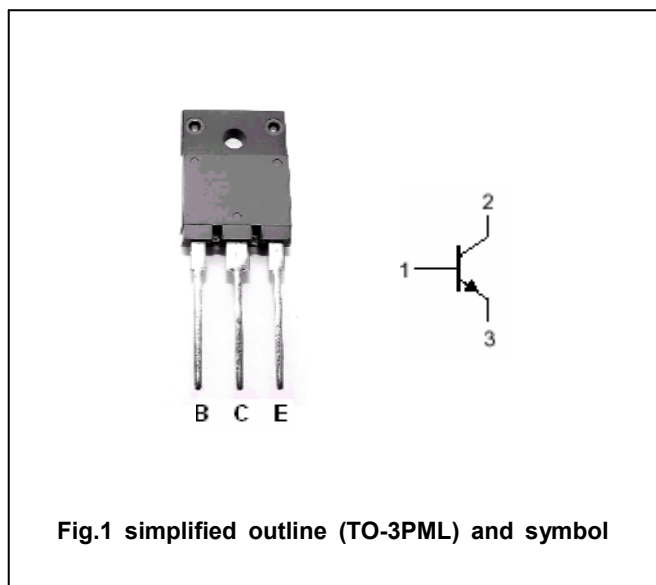
- With TO-3PML package
- High voltage.
- High speed switching

APPLICATIONS

- For switching regulator and general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	900	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		3	A
I_{CM}	Collector current-peak		6	A
I_B	Base current		1.5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	60	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	$I_C=10mA; I_B=0$	800			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=0.7A; I_B=0.14A$			0.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=0.7A; I_B=0.14A$			1.2	V
I_{CBO}	Collector cut-off current	$V_{CB}=800V; I_E=0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=7V; I_C=0$			100	μA
h_{FE}	DC current gain	$I_C=0.7A; V_{CE}=4V$	10		30	
f_T	Transition frequency	$I_E=-0.3A; V_{CE}=12V$		15		MHz
C_{OB}	Output capacitance	$V_{CB}=10V; f=1MHz$		50		pF

Switching times

t_{on}	Turn-on time	$I_C=0.7A; R_L=357\Omega$ $I_{B1}=0.1A; I_{B2}=-0.35A$ $V_{CC}=250V$			0.7	μs
t_{stg}	Storage time				4.0	μs
t_f	Fall time				0.7	μs

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PACKAGE OUTLINE

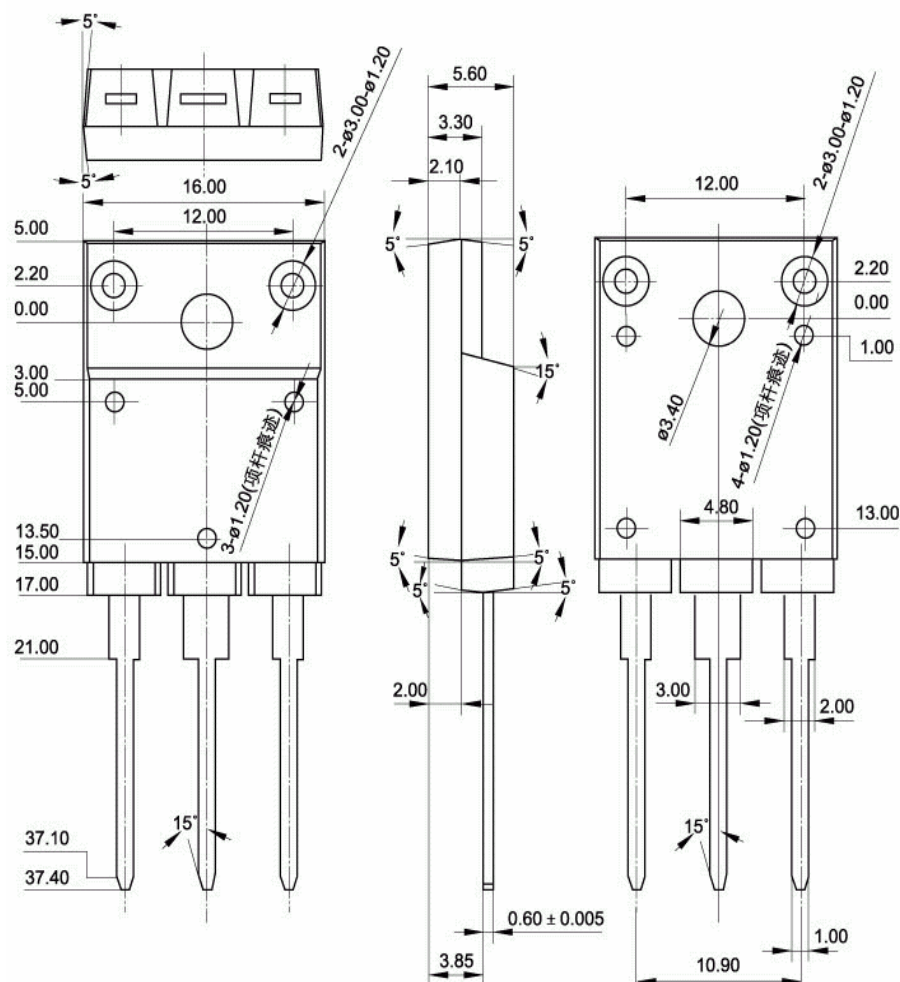


Fig.2 Outline dimensions

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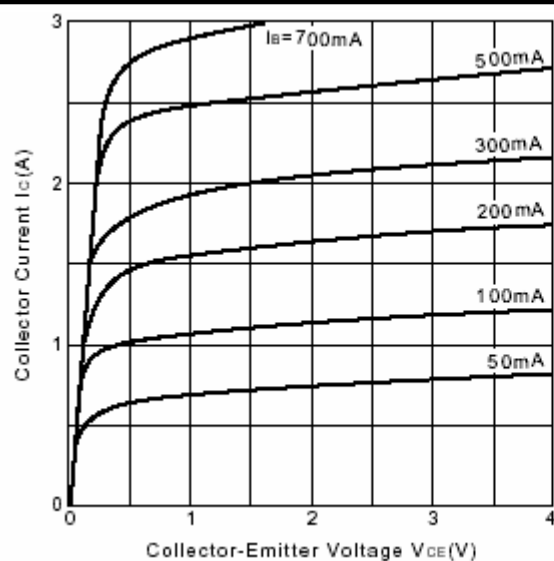


Fig.3 Static Characteristic

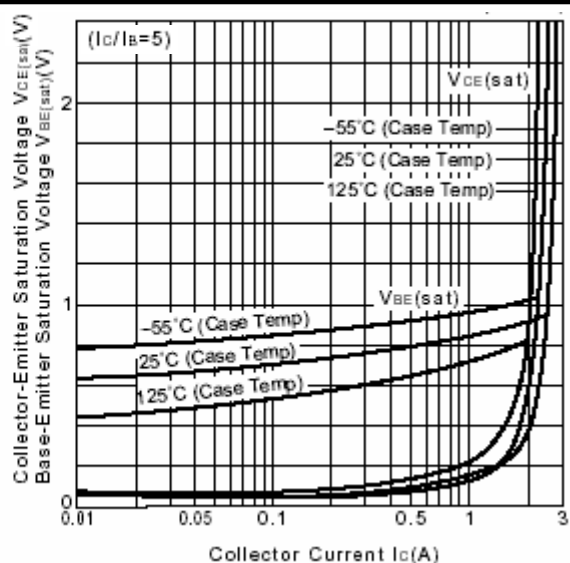
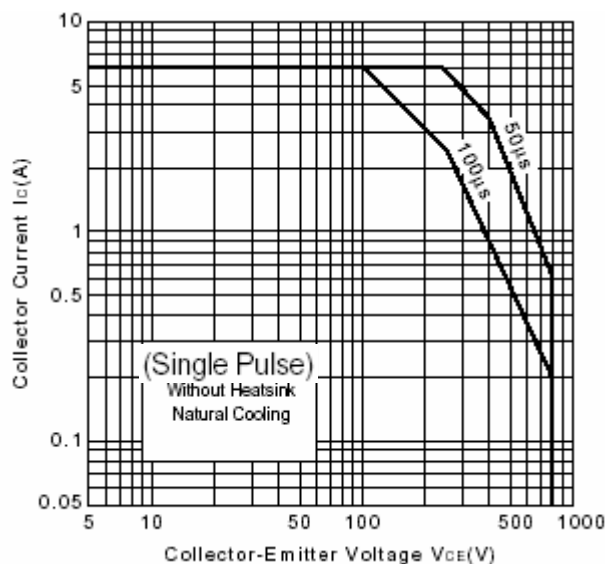
Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Fig.5 Safe Operating Area

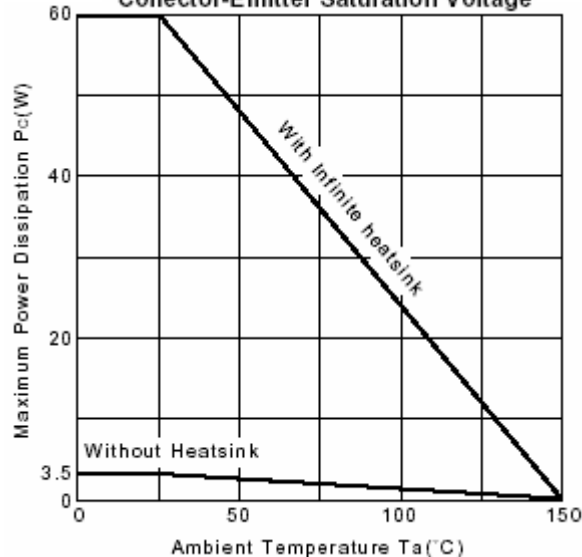


Fig.6 Safe Operating Area

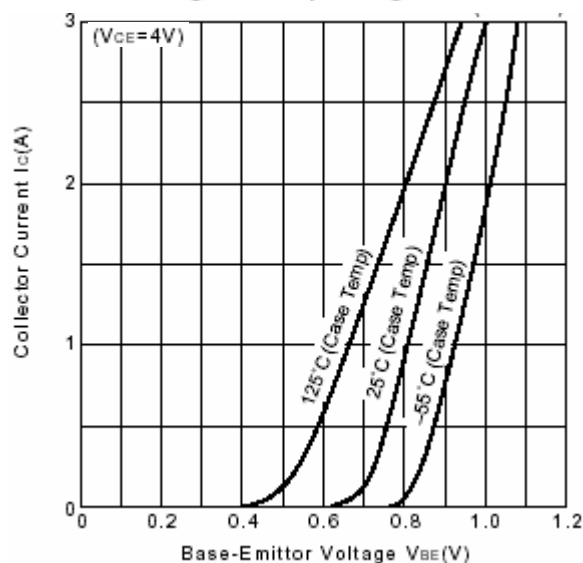
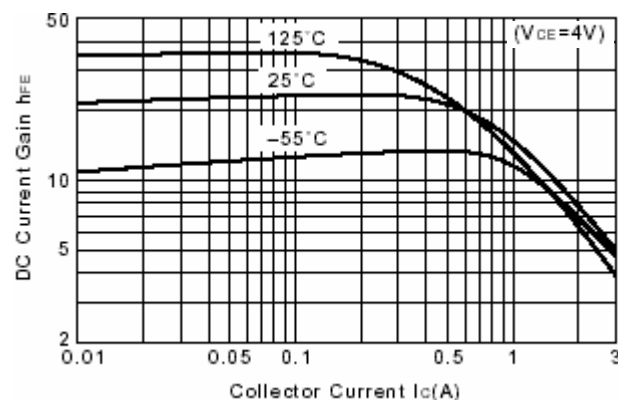
Fig.7 I_C-V_{BE} 

Fig.8 DC current Gain