

Silicon NPN Power Transistors

2SC5150

DESCRIPTION

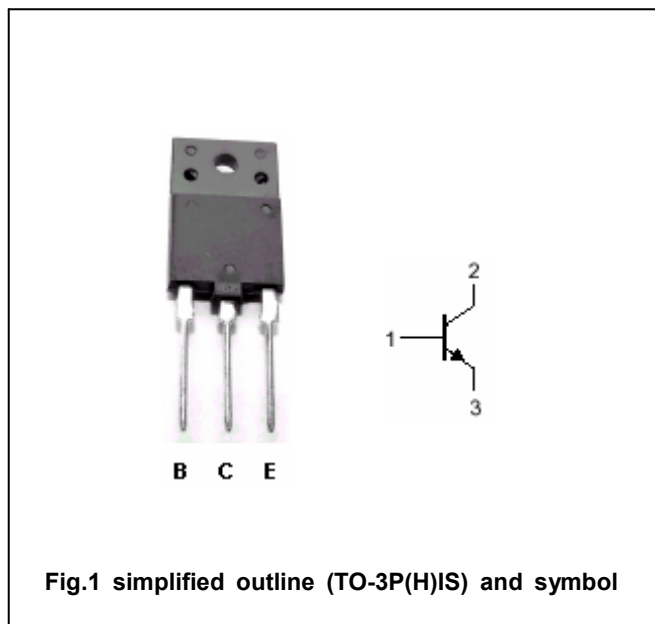
- With TO-3P(H)IS package
- High speed
- High voltage
- Low saturation voltage

APPLICATIONS

- Horizontal deflection output for high resolution display,colorTV
- High speed switching 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	1700	V
V_{CEO}	Collector-emitter voltage	Open base	700	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		10	A
I_{CM}	Collector current-Peak		20	A
I_B	Base current		5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	50	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=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	700			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =6A ; I _B =1.5A			3	V
V _{BEsat}	Base-emitter saturation voltage	I _C =6A ; I _B =1.5A		0.9	1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =1700V; I _E =0			1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			10	μA
h _{FE-1}	DC current gain	I _C =1A ; V _{CE} =5V	10		28	
h _{FE-2}	DC current gain	I _C =6A ; V _{CE} =5V	4		8.5	
C _{ob}	Collector output capacitance	I _E =0 ; V _{CB} =10V, f=1MHz		185		pF
f _T	Transition frequency	I _E =0.1A ; V _{CE} =10V		2		MHz

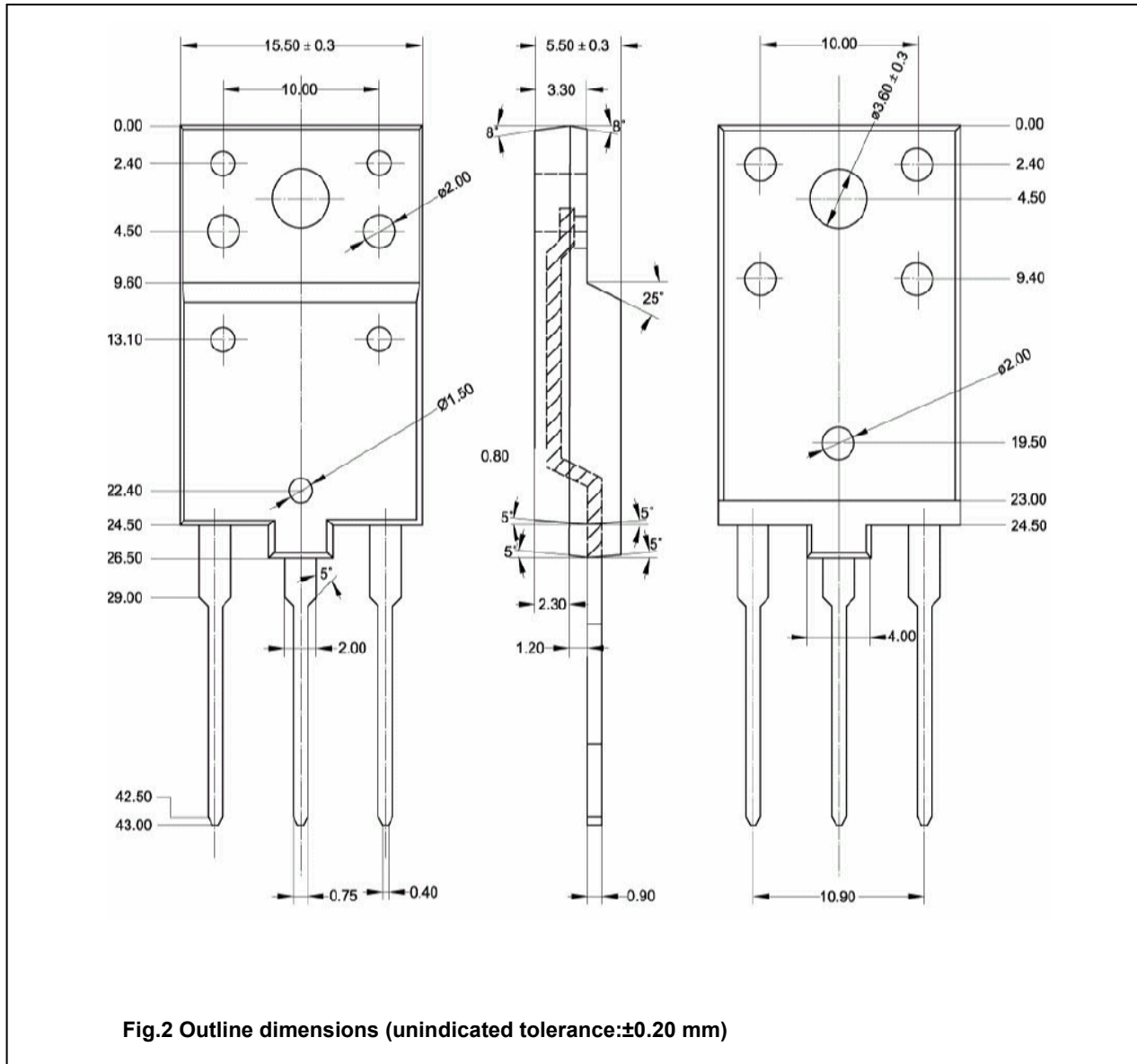
Switching times (inductive load)

t _s	Storage time	I _{CP} =5A; I _{B1(end)} =1A f _H =64kHz		2.5	4	μs
t _f	Fall time			0.15	0.3	μs

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PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: ± 0.20 mm)

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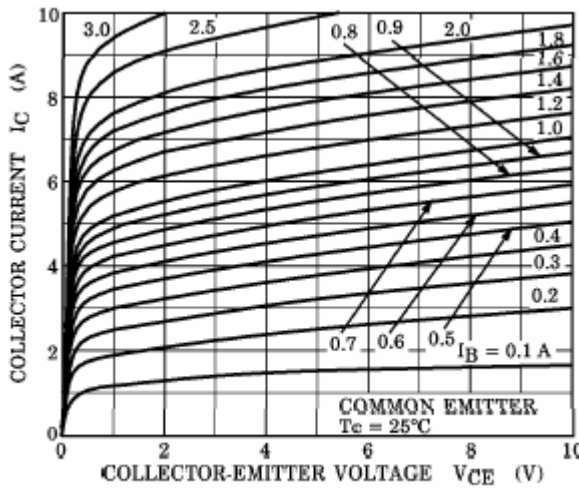


Fig.3 Static Characteristic

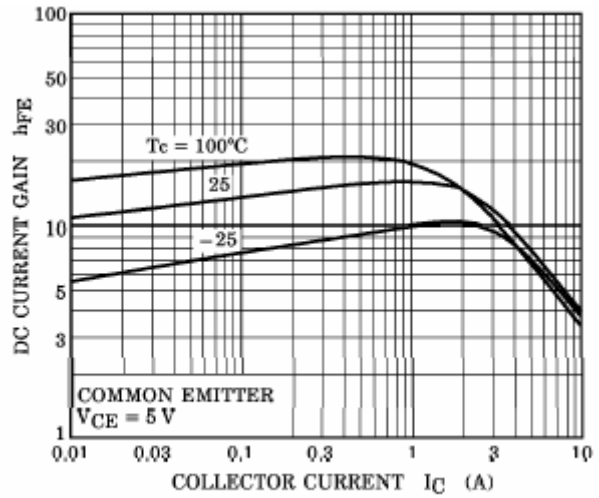


Fig.4 DC current Gain

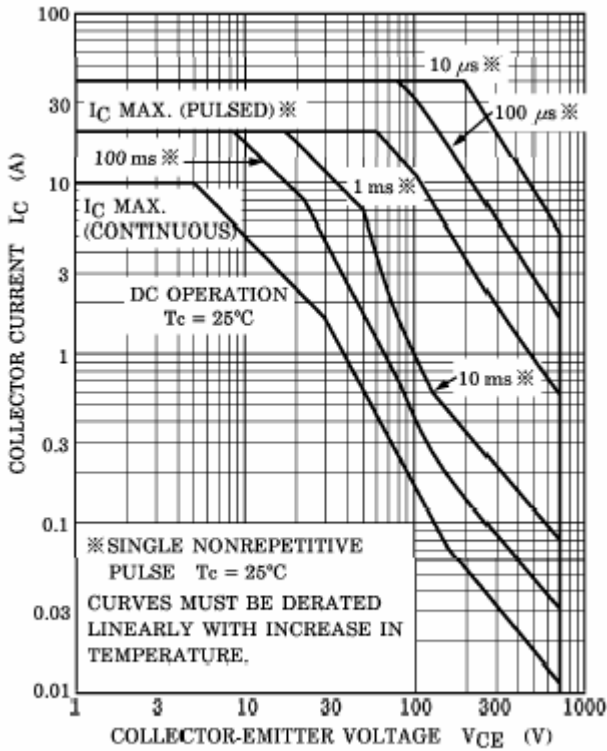


Fig.5 Safe Operating Area