

## Silicon NPN Power Transistors

2SC5148

## DESCRIPTION

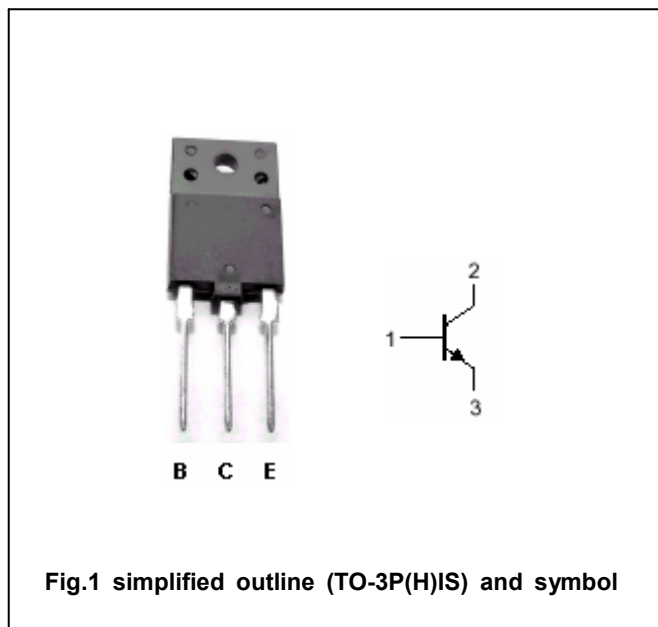
- With TO-3P(H)IS package
- High speed
- High voltage
- Low saturation voltage

## 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	1500	V
$V_{CEO}$	Collector-emitter voltage	Open base	600	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		8	A
$I_{CM}$	Collector current-Peak		16	A
$I_B$	Base current		4	A
$P_T$	Total 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

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10mA ; I_B=0$	600			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=5A ; I_B=1.3A$			5	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C=5A ; I_B=1.3A$		1	1.3	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=1500V ; I_E=0$			1	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=5V ; I_C=0$			10	μA
$h_{FE-1}$	DC current gain	$I_C=1A ; V_{CE}=5V$	8		25	
$h_{FE-2}$	DC current gain	$I_C=5A ; V_{CE}=5V$	3.8		8	
$C_{ob}$	Collector output capacitance	$I_E=0 ; V_{CB}=10V, f=1MHz$		110		pF
$f_T$	Transition frequency	$I_E=0.1A ; V_{CE}=10V$		2		MHz

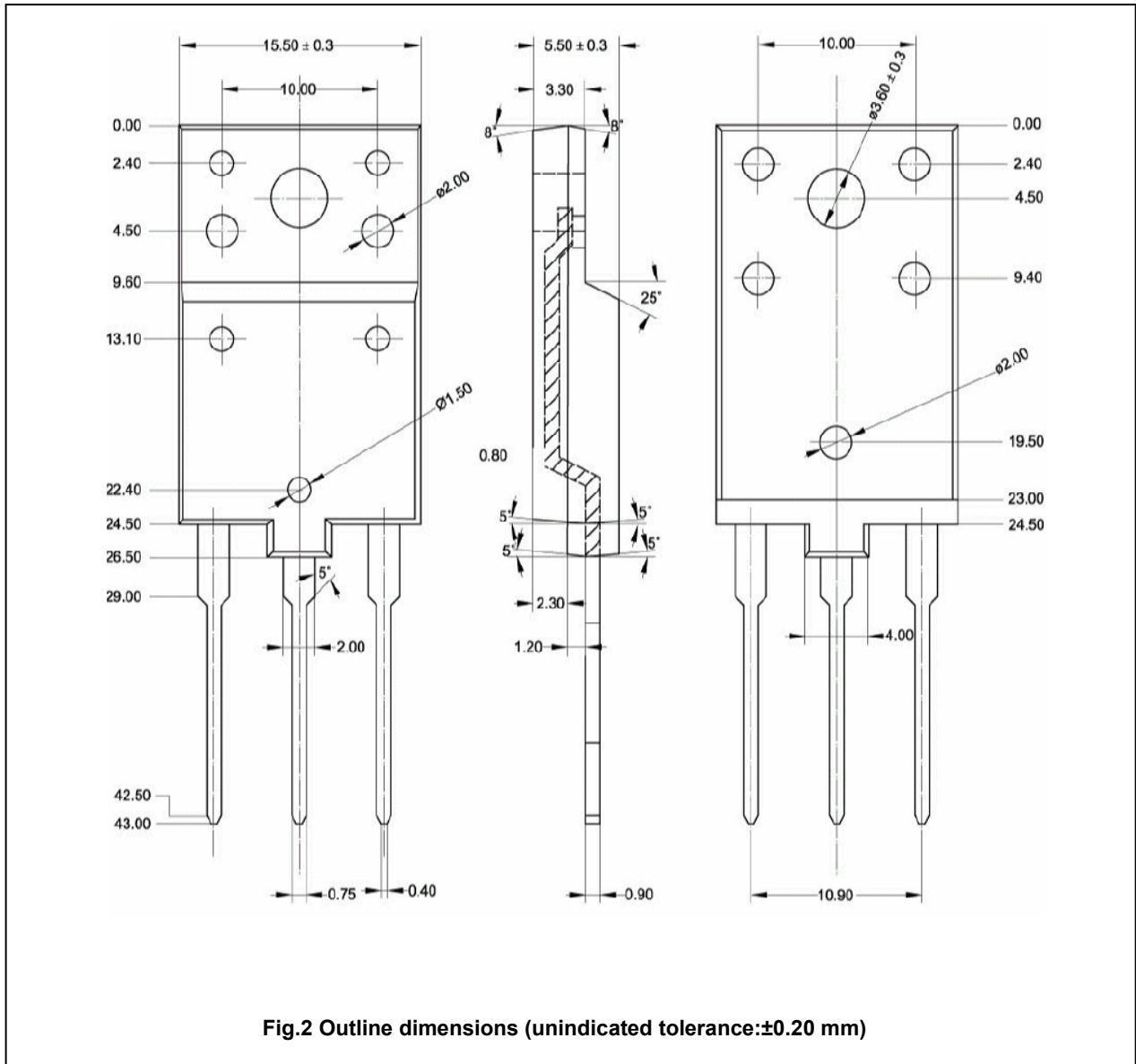
Switching times (inductive load)

$t_s$	Storage time	$I_{CP}=4A ; I_{B1(end)}=0.8A$ $f_H=64kHz$		2.5	4	μs
$t_f$	Fall time			0.15	0.3	μs

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PACKAGE OUTLINE



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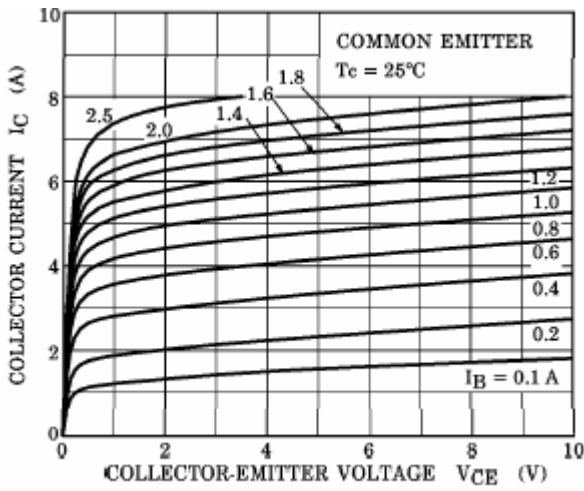


Fig.3 Static Characteristic

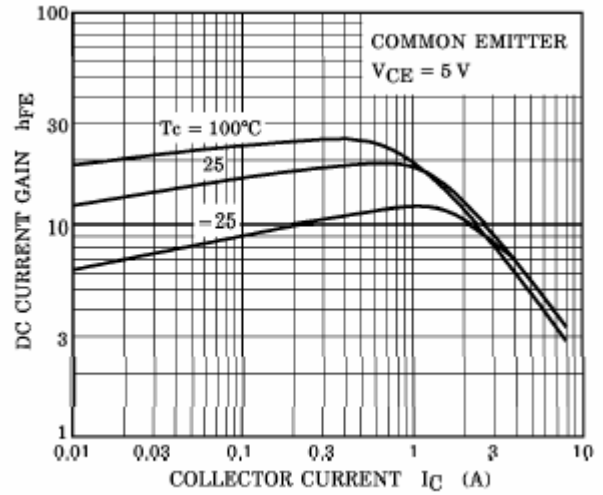


Fig.4 DC current Gain

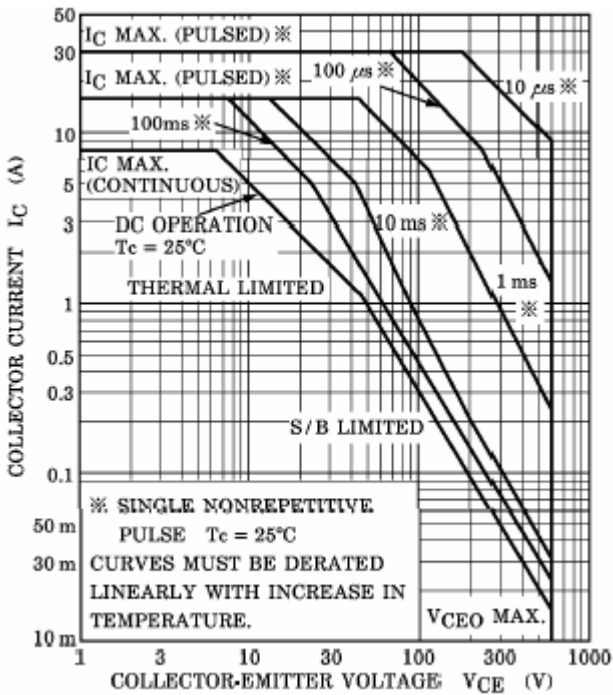


Fig.5 Safe Operating Area