

## Silicon NPN Power Transistors

## 2SD2454

## DESCRIPTION

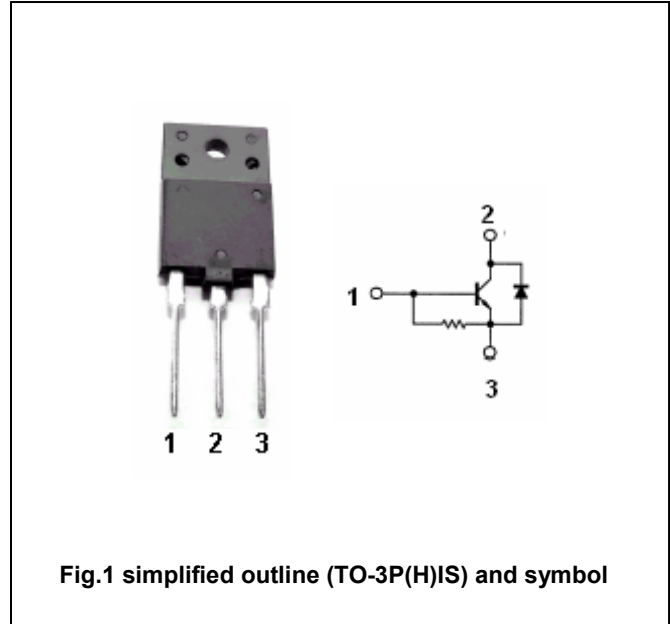
- With TO-3P(H)IS package
- High voltage ;high speed
- Low saturation voltage
- Built-in damper diode

## APPLICATIONS

- Horizontal deflection output for color TV

## 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	600	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		7	A
$I_{CM}$	Collector current-peak		14	A
$I_B$	Base current		3.5	A
$P_C$	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

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)EBO</sub>	Base-emitter breakdown voltage	I <sub>E</sub> =400mA ; I <sub>C</sub> =0	5			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =6A ; I <sub>B</sub> =1.2A			5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =6A ; I <sub>B</sub> =1.2A		0.9	1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =1700V ; I <sub>E</sub> =0			1.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0	66		200	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	8	13		
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =6A ; V <sub>CE</sub> =5V	5		8	
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =7A		1.5	2.0	
C <sub>ob</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V, f=1MHz		250		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V	1	3		MHz

Switching times : inductive load

t <sub>s</sub>	Storage time	I <sub>CP</sub> =6A ; I <sub>B1</sub> =1A f <sub>H</sub> = 15.75kHz		9	12	μs
t <sub>f</sub>	Fall time			0.3	0.7	μs

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PACKAGE OUTLINE

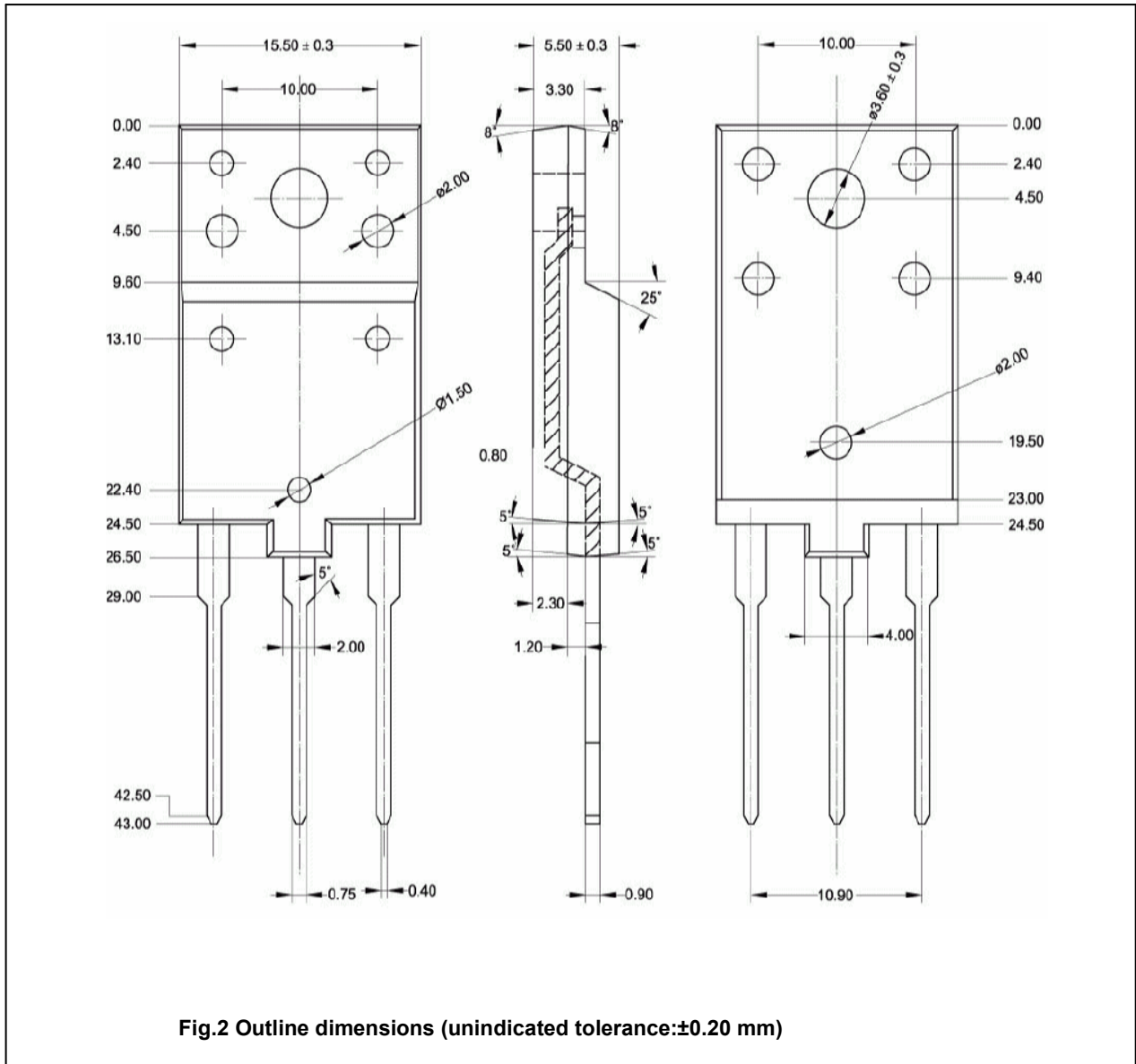


Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.20$  mm)

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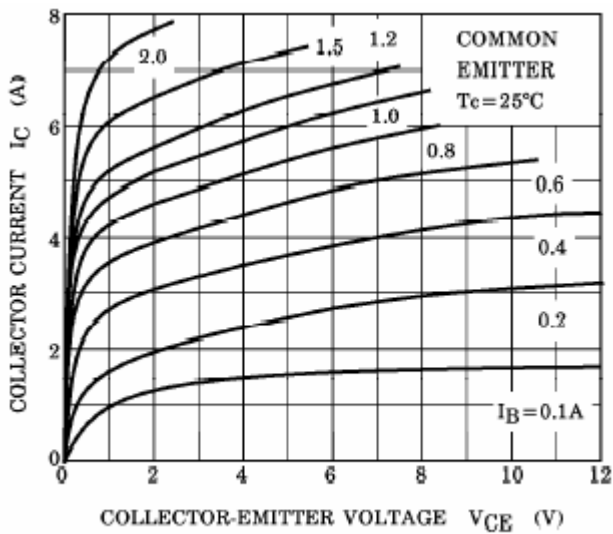


Fig.3 Static Characteristic

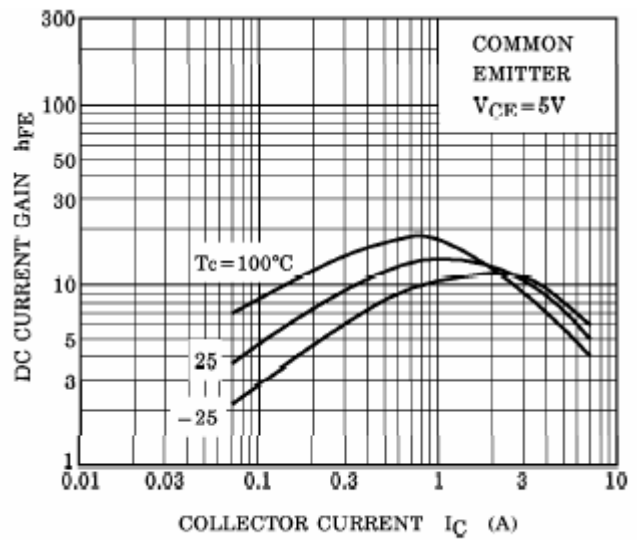


Fig.4 DC current Gain

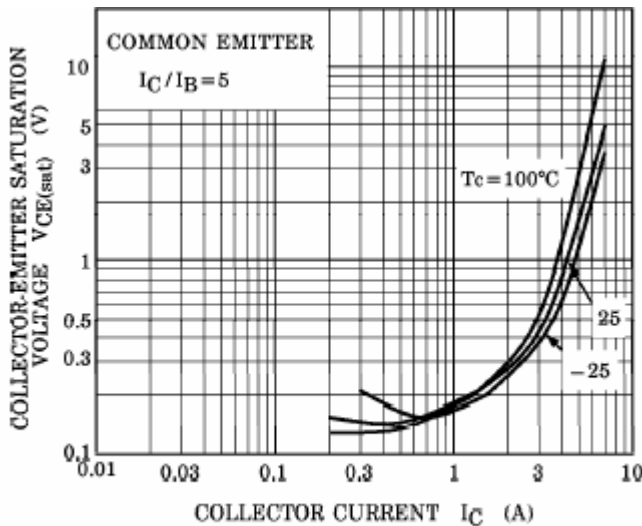


Fig.5 Collector-Emitter Saturation Voltage

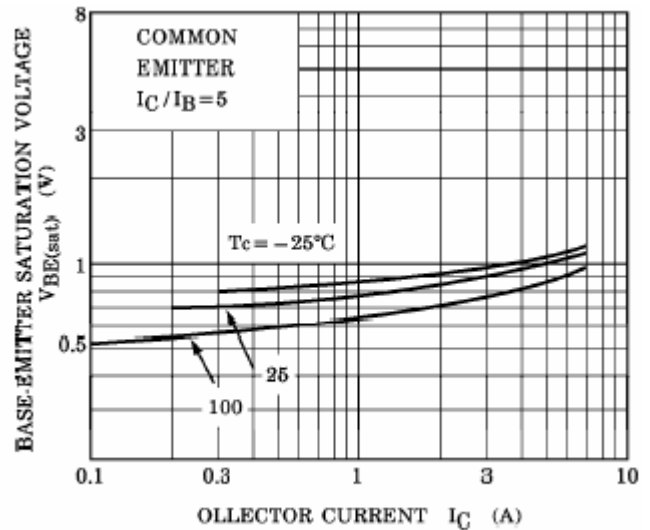


Fig.5 Collector-Emitter Saturation Voltage

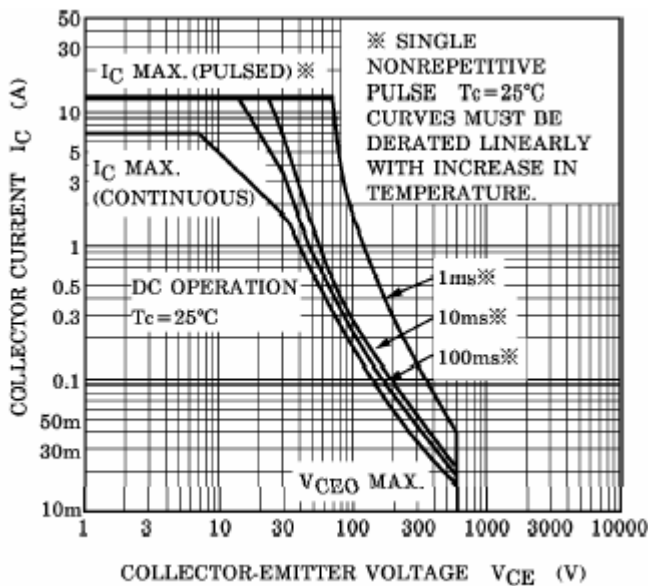


Fig.7 Safe Operating Area