

Silicon NPN Power Transistors

2SD2553

DESCRIPTION

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

APPLICATIONS

- Horizontal deflection output for high resolution display,color TV
- High speed switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

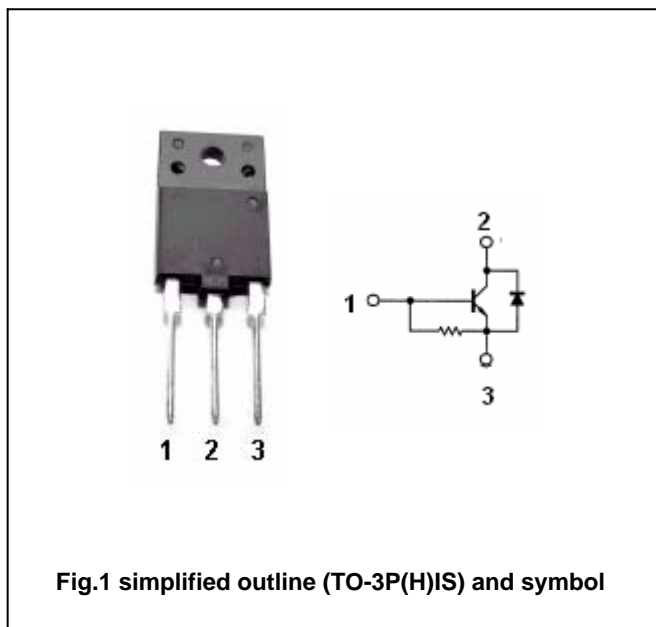


Fig.1 simplified outline (TO-3P(H)IS) and symbol

Absolute maximum ratings(Ta=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1700	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	600	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		8	A
I <sub>CM</sub>	Collector current-peak		16	A
I <sub>B</sub>	Base current		4	A
P <sub>C</sub>	Total power dissipation	T <sub>C</sub> =25	50	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>C</sub> =400mA ; I <sub>B</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	1.2	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =1700V ; I <sub>E</sub> =0			1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0	66		200	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	8		28	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =6A ; V <sub>CE</sub> =5V	5		9	
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =8A		1.6	2.0	V
C <sub>ob</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V, f=1MHz		155		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V		2		MHz

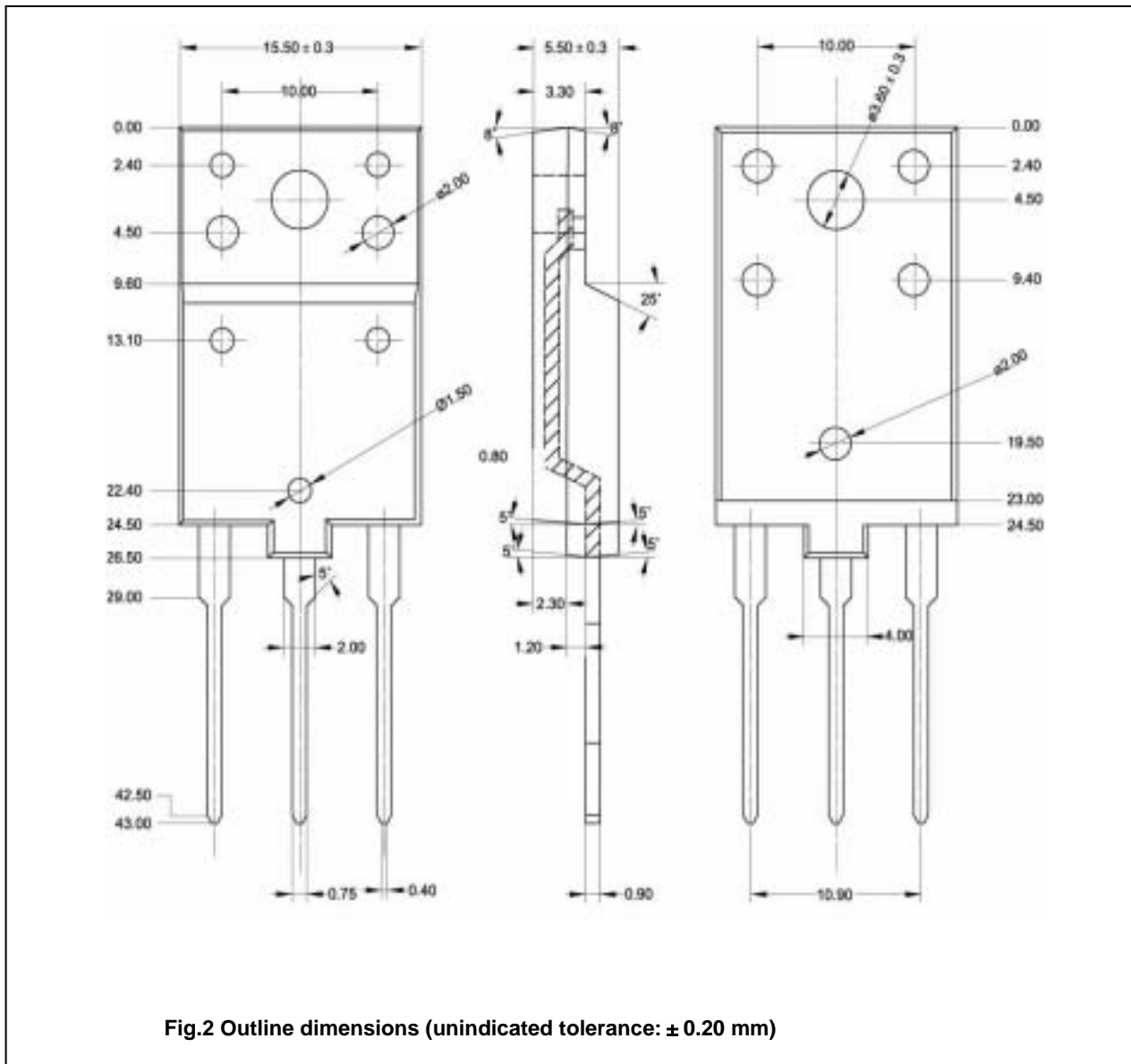
Switching times :

t <sub>s</sub>	Storage time	I <sub>CP</sub> =6A ; I <sub>B1</sub> =1.5A 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



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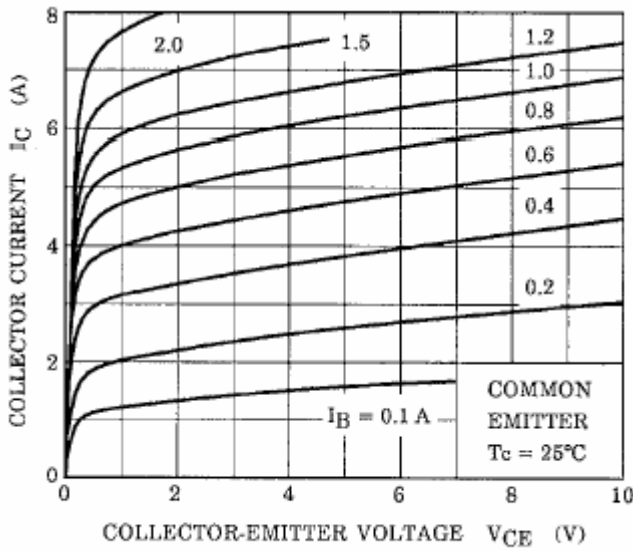


Fig.3 Static Characteristic

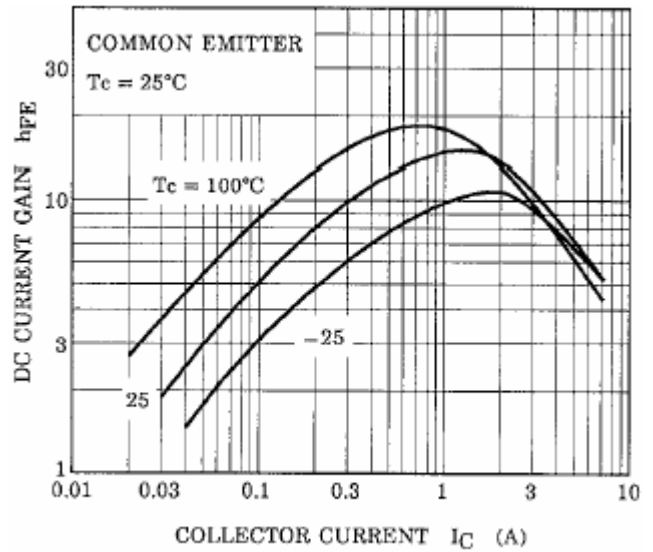


Fig.4 DC current Gain

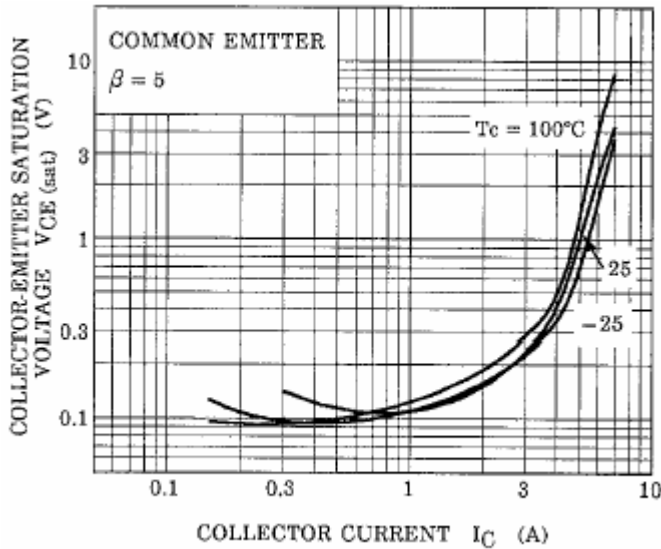


Fig.5 Collector-Emitter Saturation Voltage

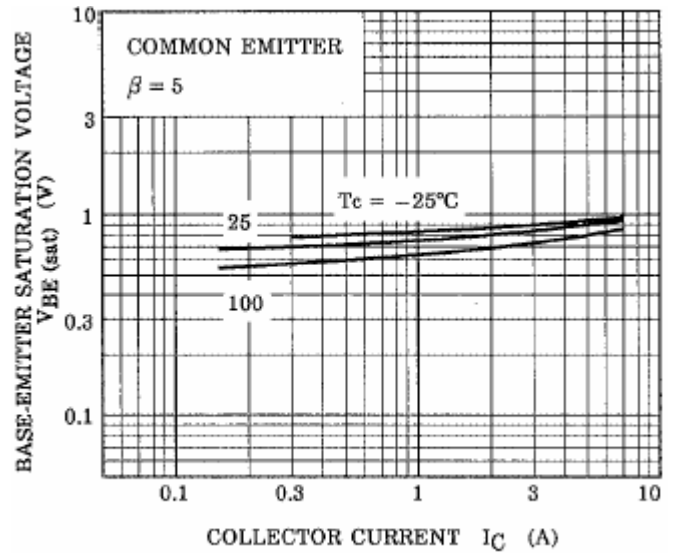


Fig.6 Base-Emitter Saturation Voltage

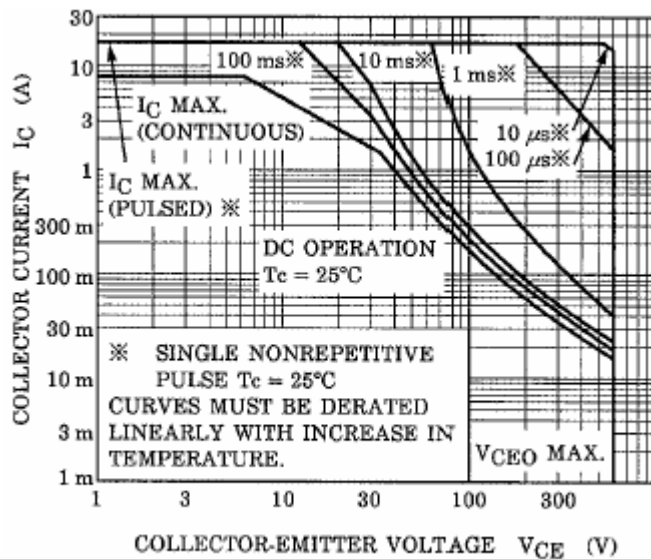


Fig.7 Safe Operating Area