

Silicon NPN Power Transistors

2SC5280

DESCRIPTION

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

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

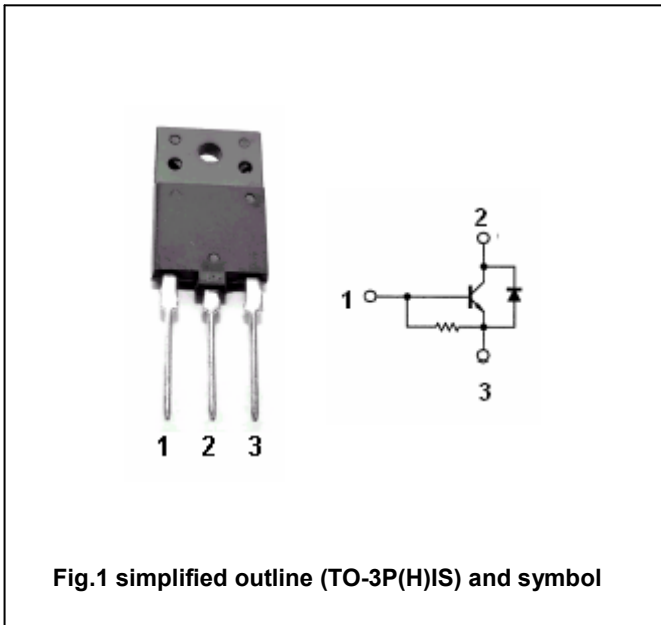


Fig.1 simplified outline (TO-3P(H)IS) and symbol

Maximum absolute ratings(Tc=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1500	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>	Collector power dissipation	T <sub>C</sub> =25°C	50	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## CHARACTERISTICS

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

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =6A; I <sub>B</sub> =1.5 A			5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =6A; I <sub>B</sub> =1.5 A		1.0	1.5	V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =400mA; I <sub>C</sub> =0	5			V
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0	72		250	mA
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =1500V; I <sub>E</sub> =0			1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1 A ; V <sub>CE</sub> =5V	10		35	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =6A ; V <sub>CE</sub> =5V	4		8.5	
f <sub>T</sub>	Transition frequency	I <sub>E</sub> =0.1A ; V <sub>CE</sub> =10V		2		MHz
C <sub>OB</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz		115		pF
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =6A		1.4	1.8	V

## Switching times

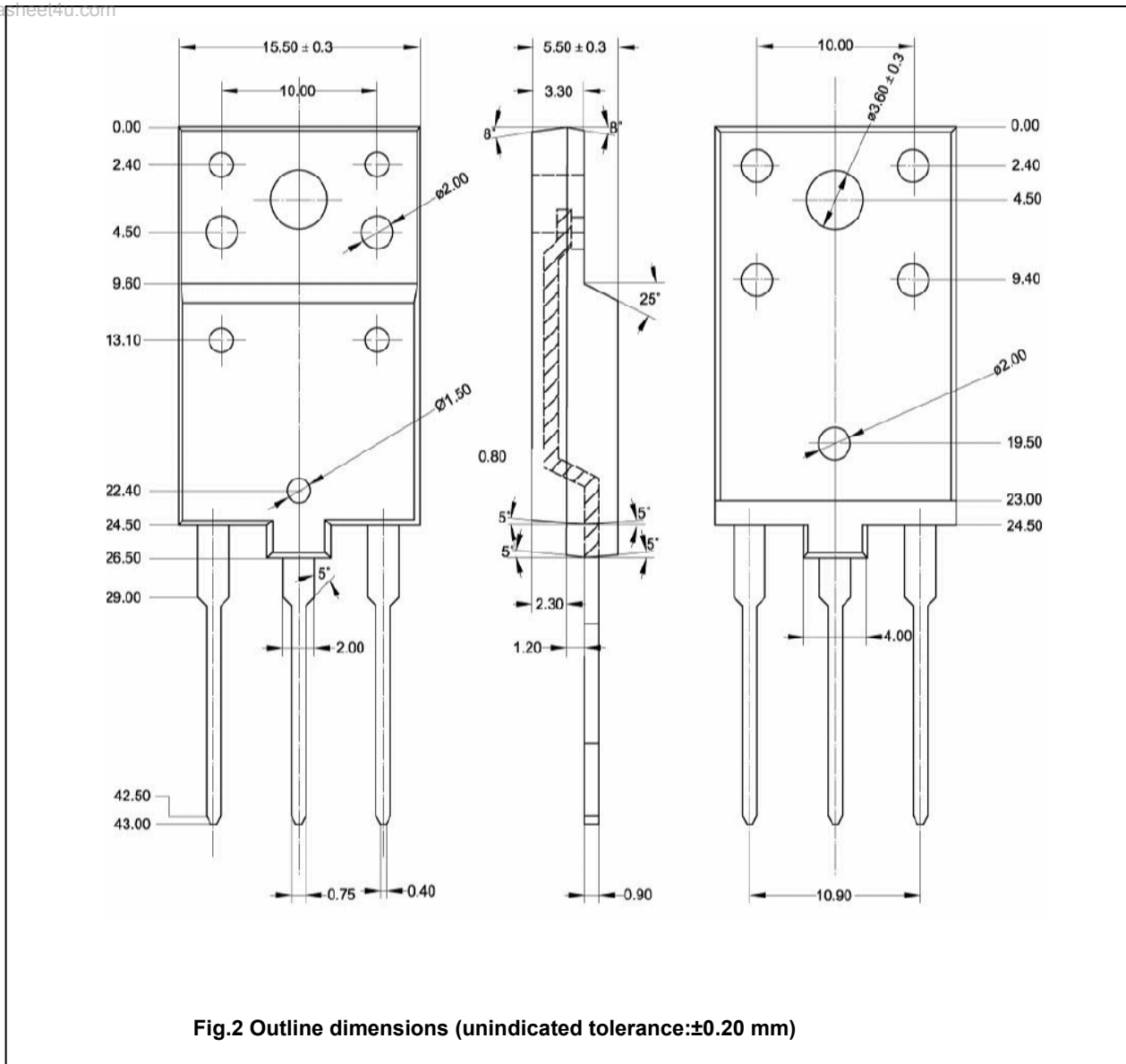
t <sub>stg</sub>	Storage time	I <sub>CP</sub> =6A; I <sub>B1(end)</sub> =1.2A f <sub>H</sub> =31.5kHz		4	6	μs
t <sub>f</sub>	Fall time			0.2	0.5	μs

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PACKAGE OUTLINE

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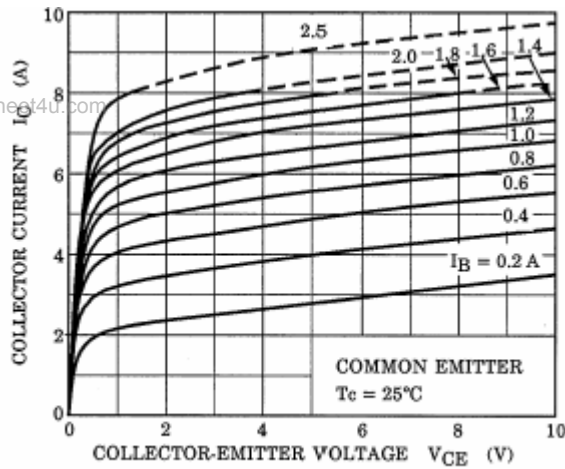


Fig.3 Static Characteristic

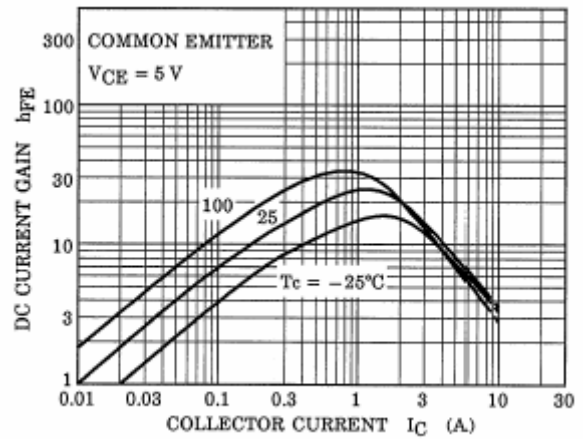


Fig.4 DC current Gain

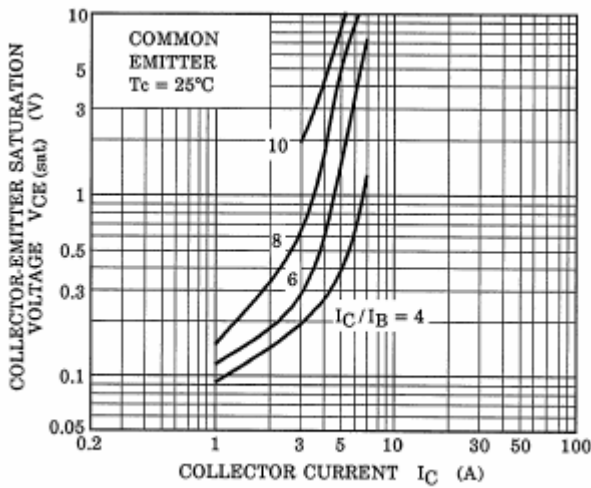


Fig.5 Collector-Emitter Saturation Voltage

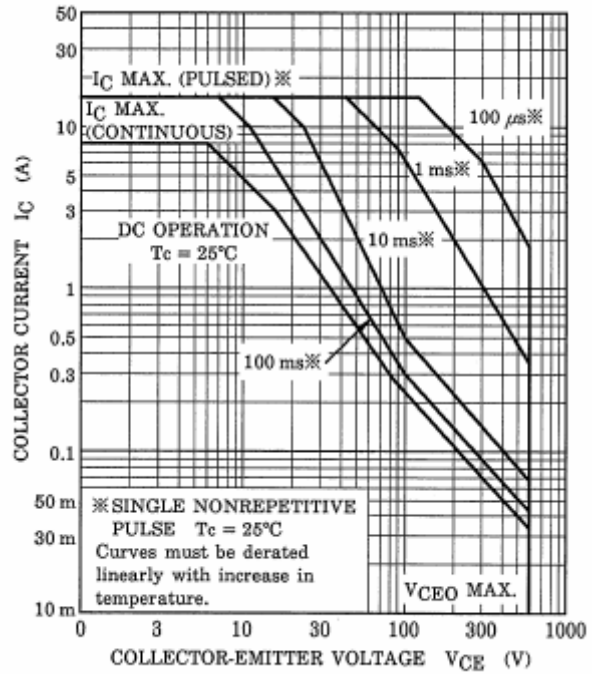


Fig.6 Safe Operating Area