

**Silicon NPN Power Transistors**

**2SC5339**

**DESCRIPTION**

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

**APPLICATIONS**

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

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

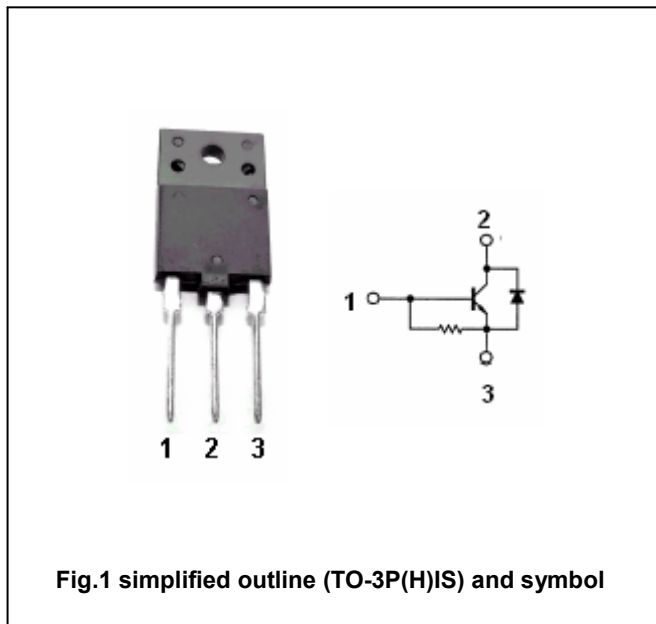


Fig.1 simplified outline (TO-3P(H)IS) and symbol

**Absolute maximum ratings(Ta=25°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		7	A
I <sub>CM</sub>	Collector current-peak		14	A
I <sub>B</sub>	Base current		3.5	A
P <sub>C</sub>	Total 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

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 $T_j=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=400\text{mA}; I_C=0$	5			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=5\text{A}; I_B=1.25\text{A}$			5	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C=5\text{A}; I_B=1.25\text{A}$			1.3	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=1500\text{V}; I_E=0$			1	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$	71		250	mA
$h_{FE-1}$	DC current gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	10		30	
$h_{FE-2}$	DC current gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	4		8	
$C_{ob}$	Collector output capacitance	$I_E=0; V_{CB}=10\text{V}, f=1\text{MHz}$		82		pF
$V_F$	Diode forward voltage	$I_F=5\text{A}$		1.35	1.8	V
$f_T$	Transition frequency	$I_E=0.1\text{A}; V_{CE}=10\text{V}$		2.4		MHz

## Switching times

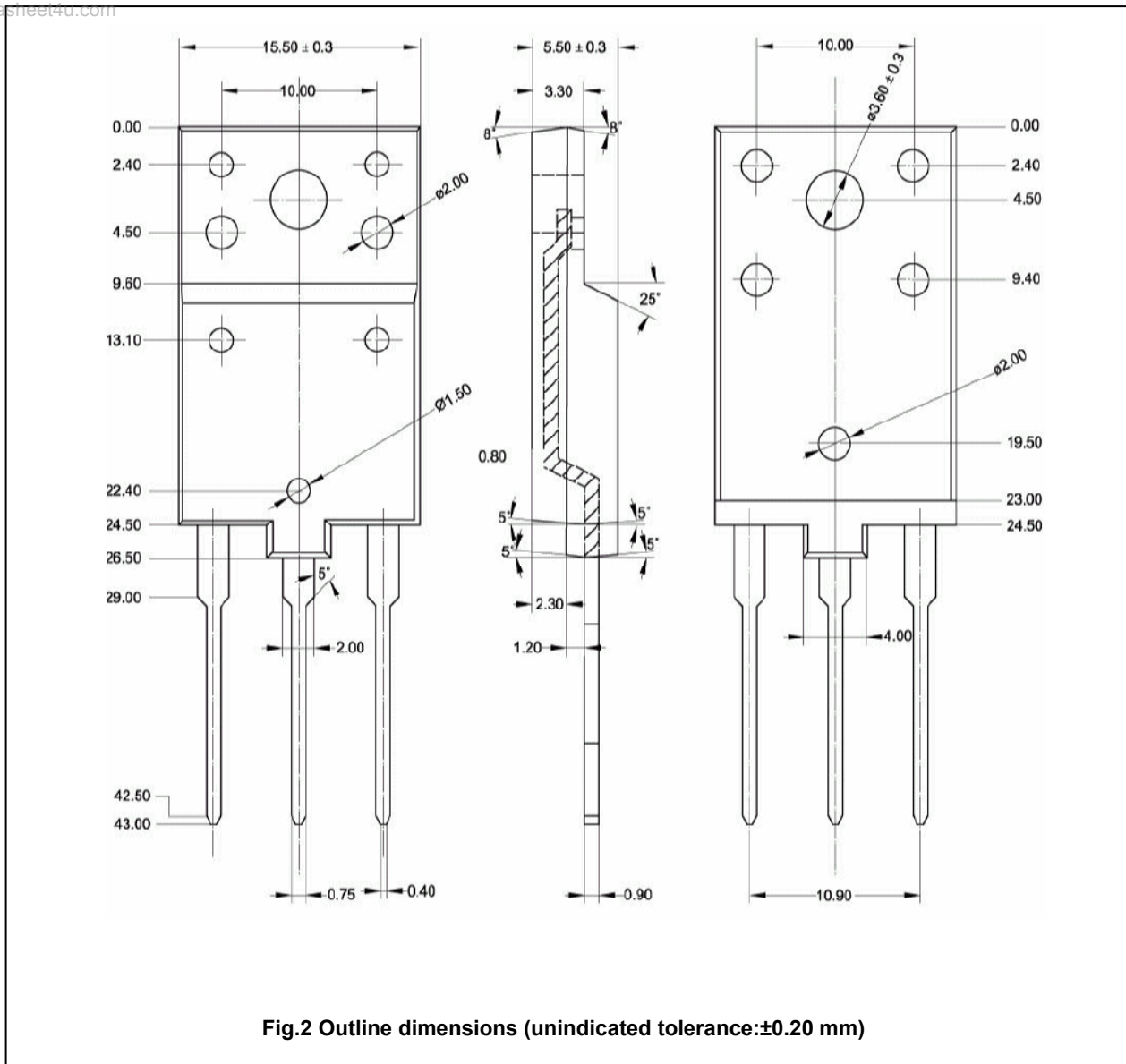
$t_s$	Storage time	$I_{CP}=5\text{A}; I_{B1(\text{end})}=1.1\text{A}$ $f_H=31.5\text{kHz}$		4	6	$\mu\text{s}$
$t_f$	Fall time			0.2	0.5	$\mu\text{s}$

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PACKAGE OUTLINE

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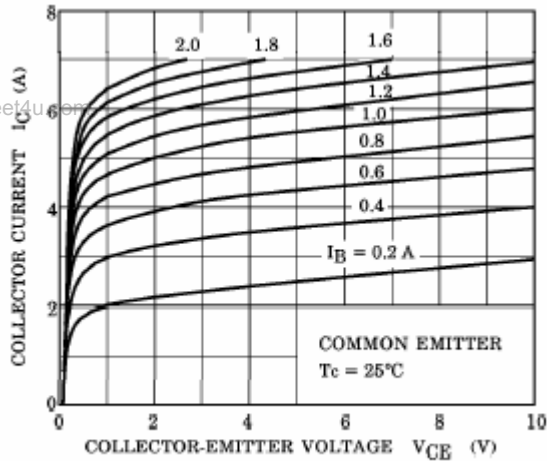


Fig.3 Static Characteristic

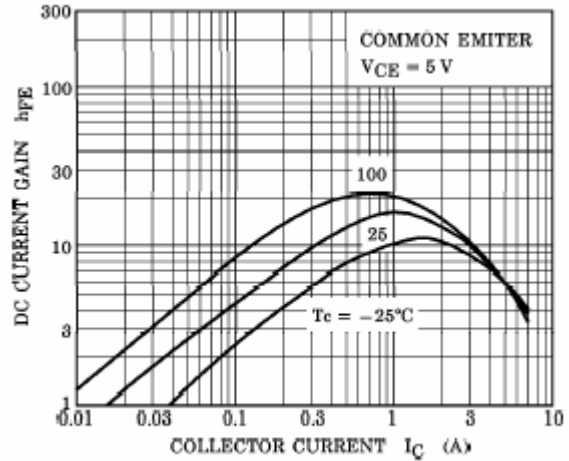


Fig.4 DC current Gain

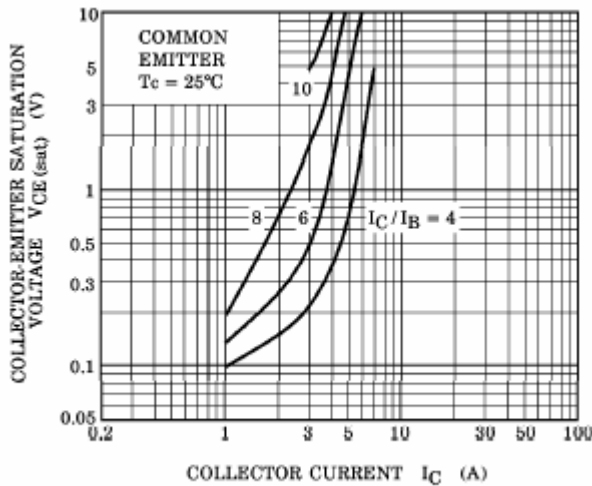


Fig.5 Collector-Emitter Saturation Voltage

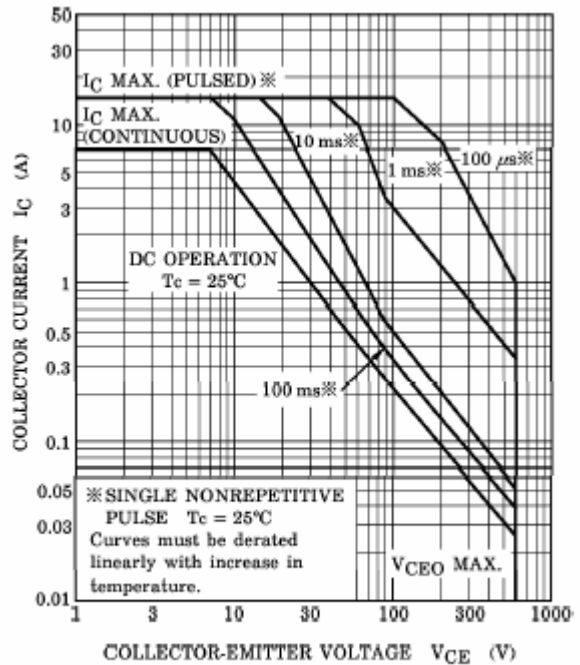


Fig.6 Safe Operating Area