

Inchange Semiconductor

Product Specification

Silicon PNP Power Transistors

2SA2031

DESCRIPTION

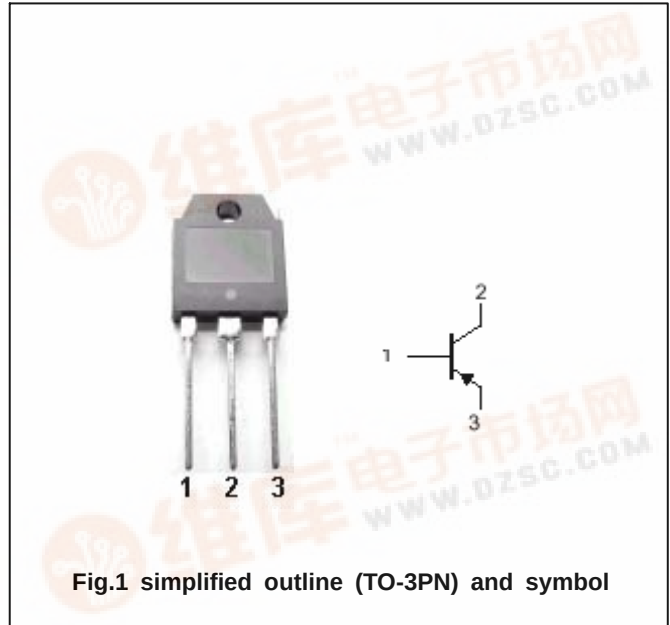
- With TO-3PN package
- Complement to type 2SC5669
- Wide area of safe operation
- Large current capacitance

APPLICATIONS

- For audio frequency output applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-250	V
V_{CEO}	Collector-emitter voltage	Open base	-230	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current		-15	A
I_{CM}	Collector current-peak		-30	A
P_C	Collector power dissipation	$T_a=25^\circ\text{C}$	2.5	W
		$T_C=25^\circ\text{C}$	140	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

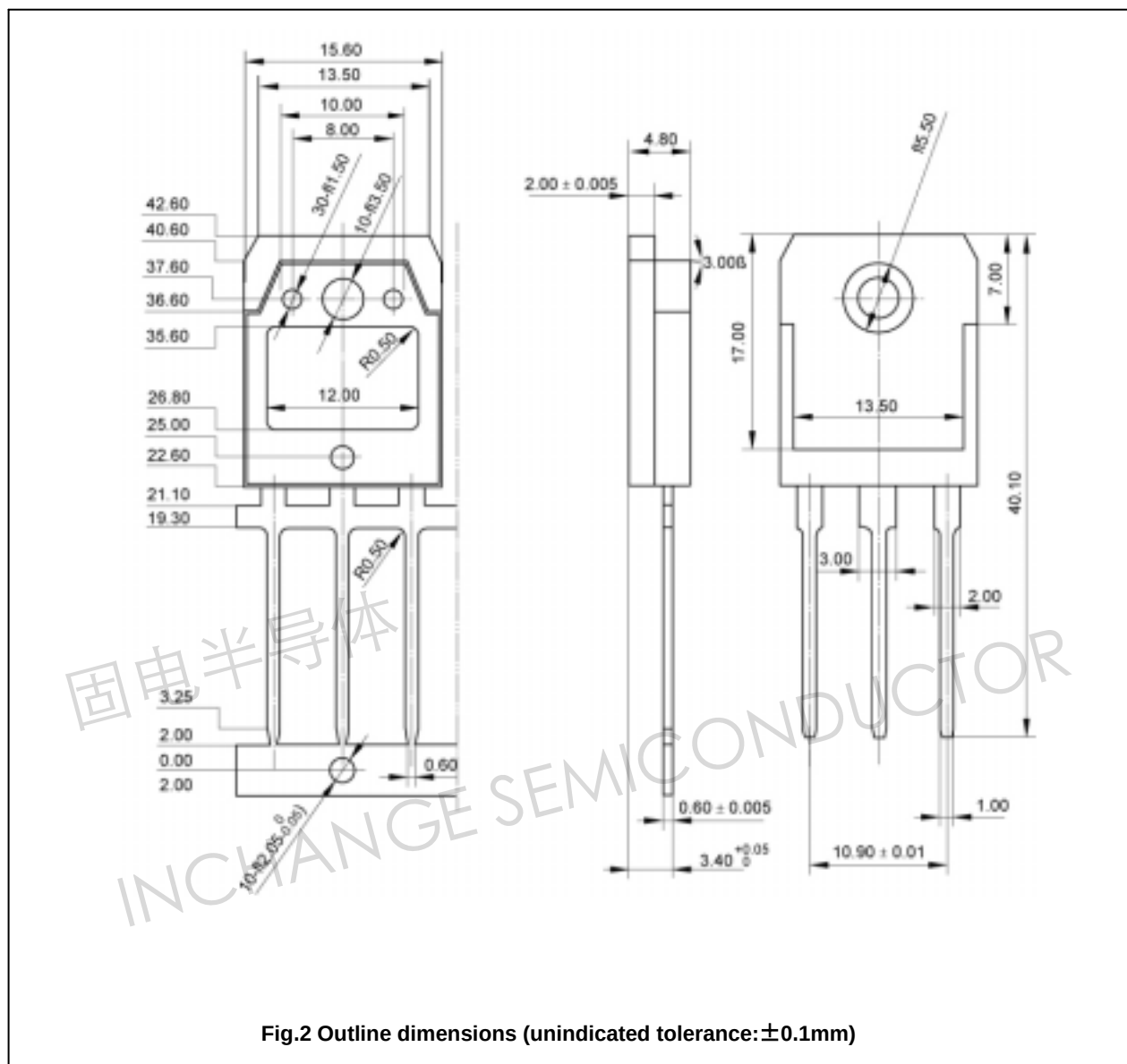
Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-50mA$; $R_{BE}=\infty$	-230			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=-5mA$; $I_E=0$	-250			V
$V_{(BREBO)}$	Emitter-base breakdown voltage	$I_E=-5mA$; $I_C=0$	-6			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=-7.5A$; $I_B=-0.75A$		-0.3	-2.0	V
V_{BE}	Base-emitter saturation voltage	$I_C=-7.5A$; $V_{CE}=-5V$			-1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=-250V$; $I_E=0$			-100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=-4V$; $I_C=0$			-100	μA
h_{FE-1}	DC current gain	$I_C=-1A$; $V_{CE}=-5V$	60		160	
h_{FE-2}	DC current gain	$I_C=-7.5A$; $V_{CE}=-5V$	35			
C_{OB}	Output capacitance	$I_E=0$; $V_{CB}=-10V$, $f=1MHz$		400		pF
f_T	Transition frequency	$I_C=-1A$; $V_{CE}=-5V$		10		MHz

Switching times

t_{on}	Turn-on time	$I_C=-7.5A$; $R_L=6.67\Omega$ $I_{B1}=-I_{B2}=-0.75A$ $V_{CC}=-50V$		0.45		μs
t_{stg}	Storage time			1.75		μs
t_f	Fall time			0.25		μs

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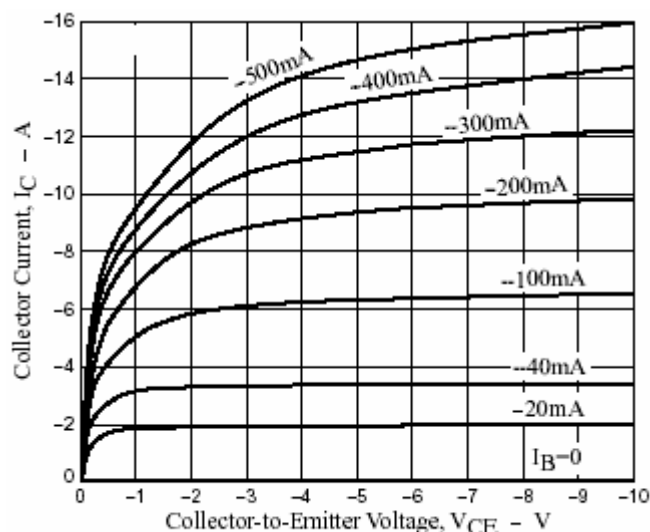


Fig.3 Static Characteristic

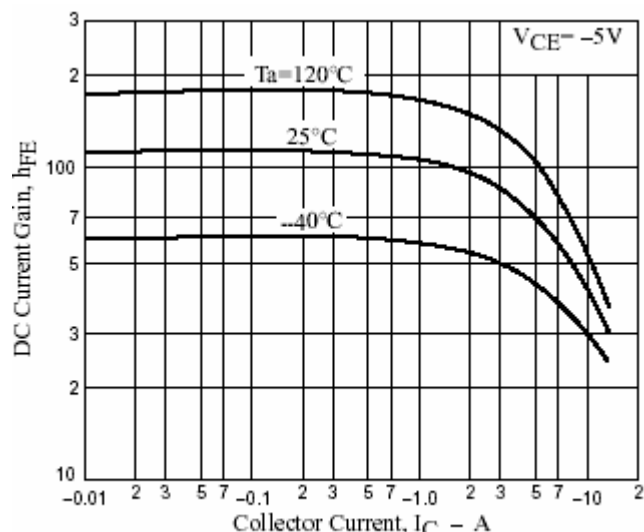


Fig.4 DC current Gain

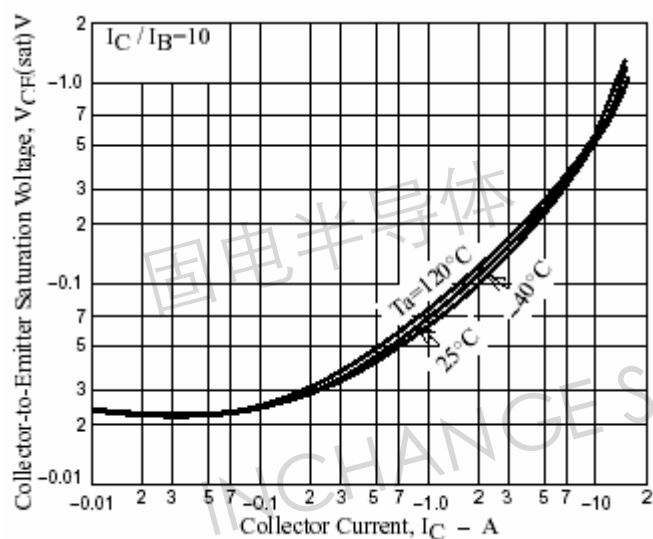


Fig.5 Collector-Emitter Saturation Voltage

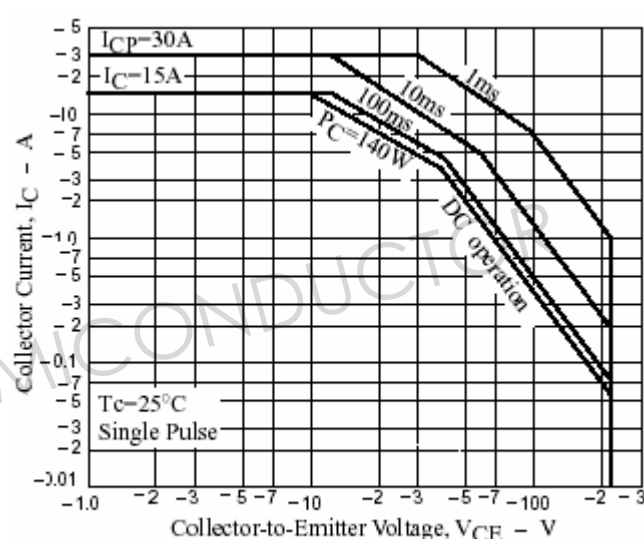


Fig.6 Safe Operating Area