

Silicon NPN Power Transistors

2SC3181N

DESCRIPTION

- With TO-3P(I) package
- Complement to type 2SA1264N

APPLICATIONS

- Power amplifier applications
- Recommend for 55W high fidelity audio frequency amplifier output stage

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

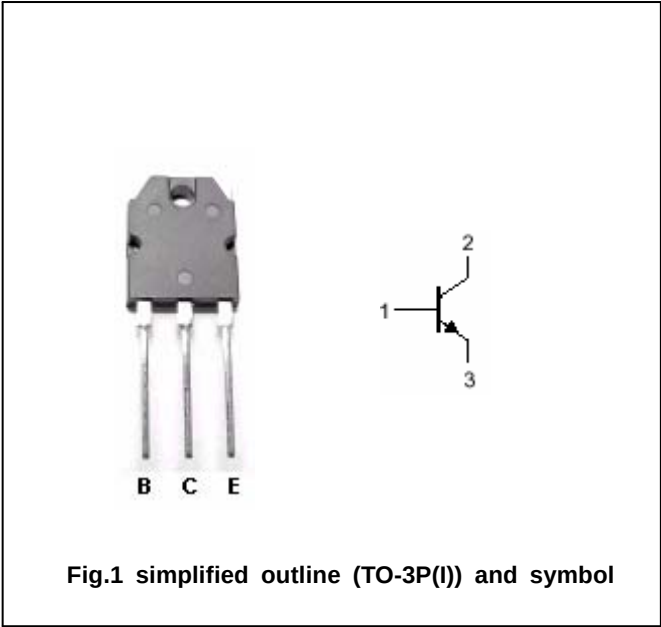


Fig.1 simplified outline (TO-3P(I)) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	120	V
V _{CEO}	Collector-emitter voltage	Open base	120	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		8	A
I _B	Base current		0.8	A
P _T	Total power dissipation	T _C =25°C	80	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°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	$I_C=50mA, I_B=0$	120			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=6A; I_B=0.6A$			2.0	V
V_{BE}	Base-emitter voltage	$I_C=4A; V_{CE}=5V$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=120V; I_E=0$			5	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V; I_C=0$			5	μA
h_{FE-1}	DC current gain	$I_C=1A; V_{CE}=5V$	55		160	
h_{FE-2}	DC current gain	$I_C=4A; V_{CE}=5V$	35			
f_T	Transition frequency	$I_C=1A; V_{CE}=5V$		30		MHz
C_{ob}	Output capacitance	$I_E=0; V_{CB}=10V; f=1MHz$		190		pF

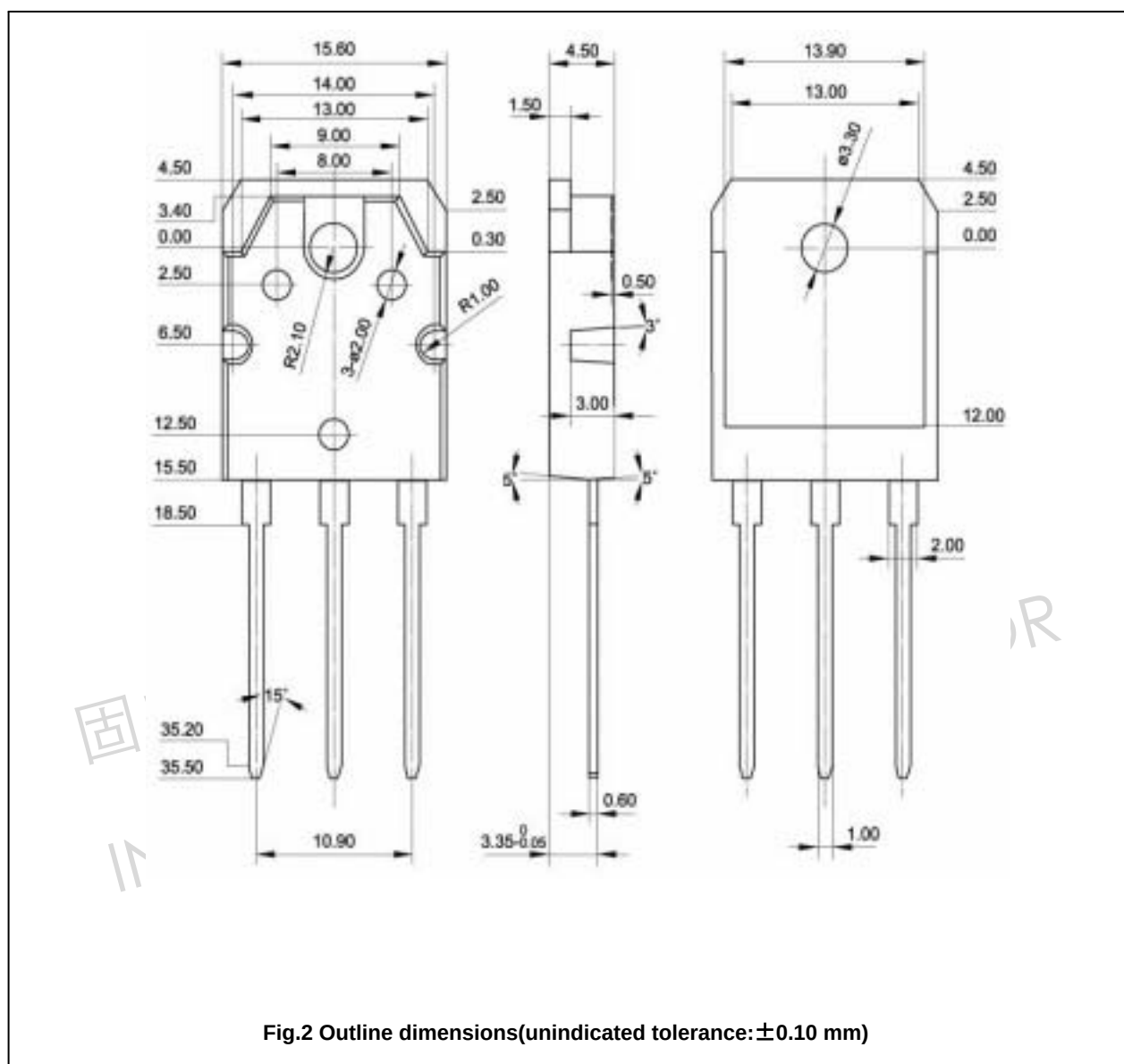
◆ h_{FE-1} Classifications

R	O
55-110	80-160

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PACKAGE OUTLINE



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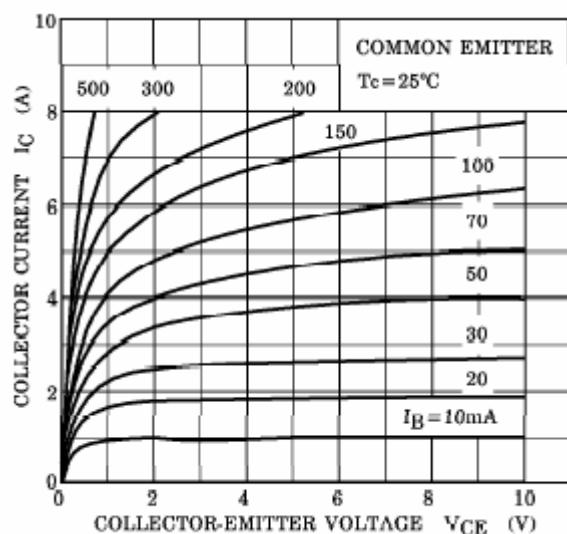


Fig.3 Static Characteristic

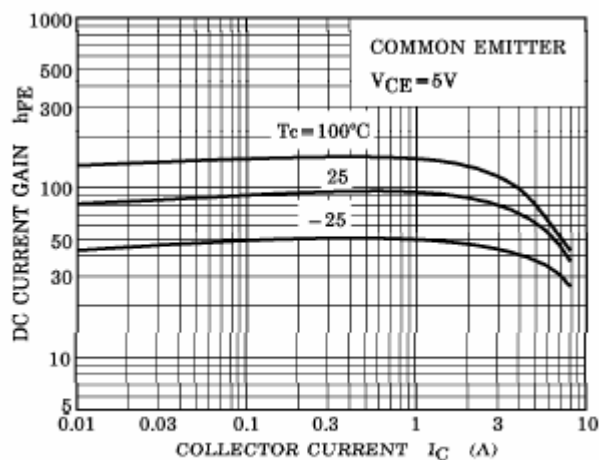


Fig.4 DC current Gain

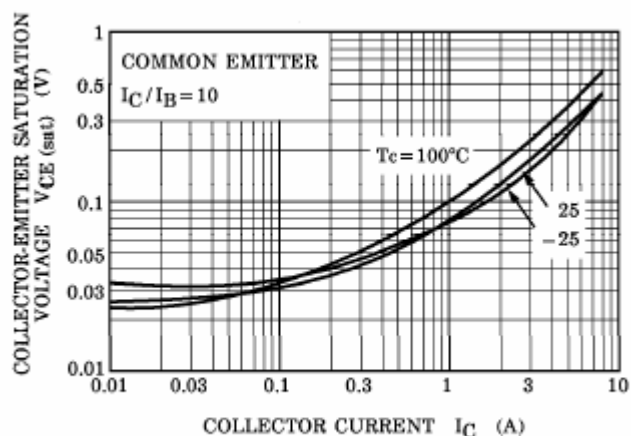


Fig.5 Collector-Emitter Saturation Voltage

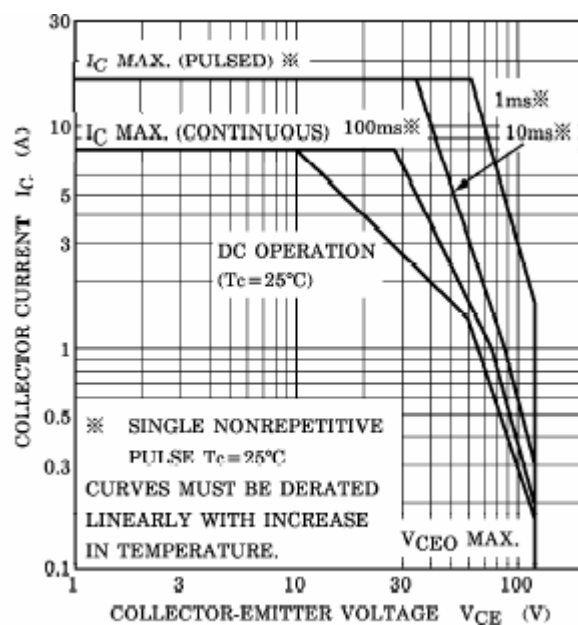


Fig.6 Safe Operating Area