

Silicon NPN Power Transistors

2SC3180N

DESCRIPTION

- With TO-3P(I) package
- Complement to type 2SA1263N

APPLICATIONS

- Power amplifier applications
- Recommend for 40W high fidelity audio frequency amplifier output stage

PINNING

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

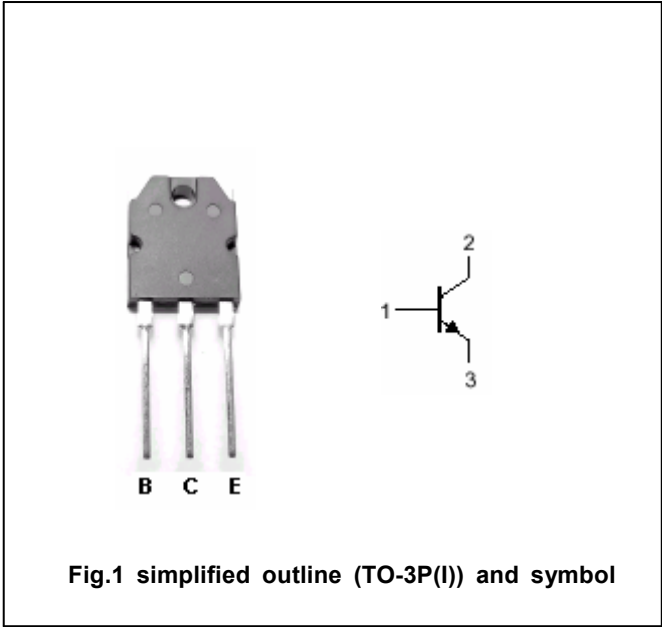


Fig.1 simplified outline (TO-3P(I)) and symbol

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	80	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		6	A
I_B	Base current		0.6	A
P_C	Collector power dissipation	$T_C=25^{\circ}\text{C}$	60	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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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	$I_C=50mA, I_B=0$	80			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=5A; I_B=0.5A$			2.0	V
V_{BE}	Base-emitter voltage	$I_C=3A; V_{CE}=5V$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=80V; I_E=0$			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	$I_C=3A; V_{CE}=5V$	35			
f_T	Transition frequency	$I_C=1A; V_{CE}=5V$		30		MHz
C_{ob}	Output capacitance	$I_E=0; V_{CB}=10V; f=1MHz$		105		pF

◆ h_{FE-1} Classifications

R	O
55-110	80-160

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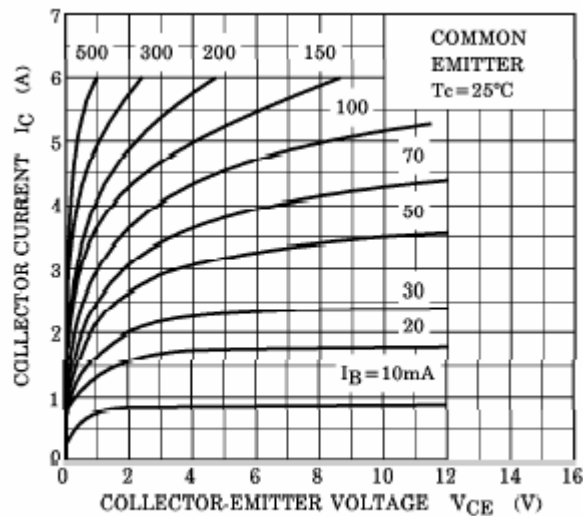


Fig.3 Static Characteristic

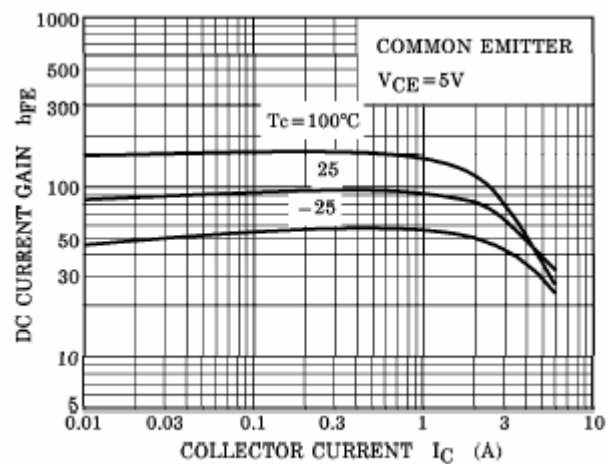


Fig.4 DC current Gain

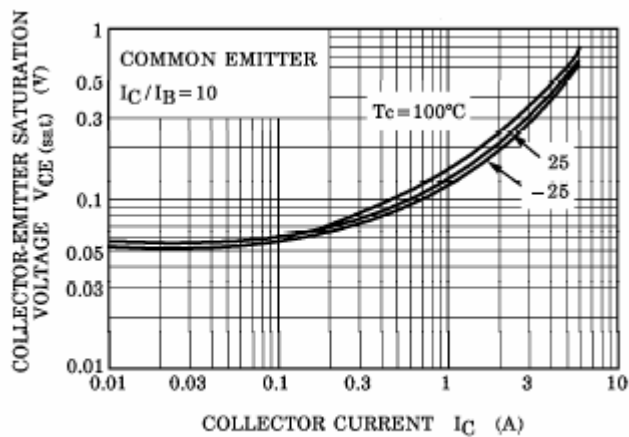


Fig.5 Collector-Emitter Saturation Voltage

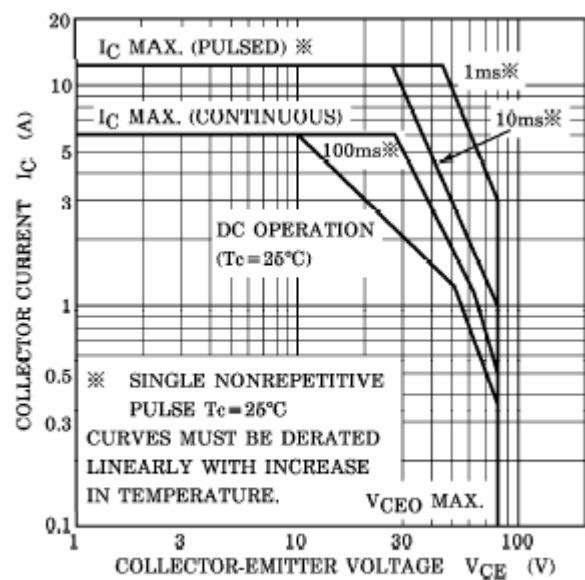


Fig.6 Safe Operating Area