

Silicon NPN Power Transistors

2SC3540

DESCRIPTION

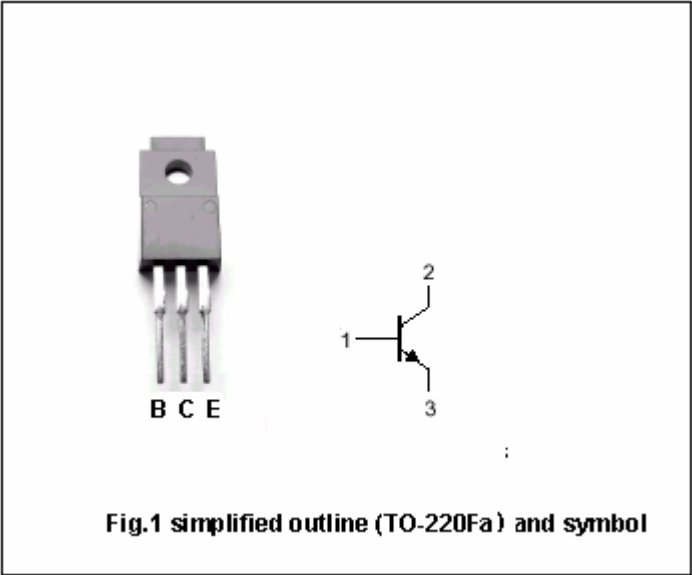
- With TO-220Fa package
- Low collector saturation voltage
- High speed switching time
- Complement to type 2SA1388

APPLICATIONS

- High current switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	100	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		5	A
I_{CM}	Collector current-peak		8	A
I_B	Base current (DC)		1	A
P_C	Collector power dissipation	$T_a=25^{\circ}\text{C}$	2	W
		$T_C=25^{\circ}\text{C}$	25	
T_j	Junction temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-55~150	$^{\circ}\text{C}$

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CHARACTERISTICS

T_j=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA ; I _B =0	80			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =3A ; I _B =0.15A		0.2	0.4	V
V _{BEsat}	Base-emitter saturation voltage	I _C =3A ; I _B =0.15A		0.9	1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =100V; I _E =0			1	μA
I _{EBO}	Emitter cut-off current	V _{EB} =7V; I _C =0			1	μA
h _{FE-1}	DC current gain	I _C =1A ; V _{CE} =1V	70		240	
h _{FE-2}	DC current gain	I _C =3A ; V _{CE} =1V	40			
f _T	Transistion frequency	I _C =1A ; V _{CE} =4V		120		MHz
C _{ob}	Collector output capacitance	I _E =0 ; V _{CE} =10V; f=1MHz		80		pF

Switching times

t _{on}	Turn-on time	I _{B1} =-I _{B2} =0.15A V _{CC} ≈30V; R _L =10Ω		0.2		μs
t _{stg}	Storage time			1.0		μs
t _f	Fall time			0.1		μs

◆ h_{FE-1} Classifications

O	Y
70-140	120-240

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PACKAGE OUTLINE

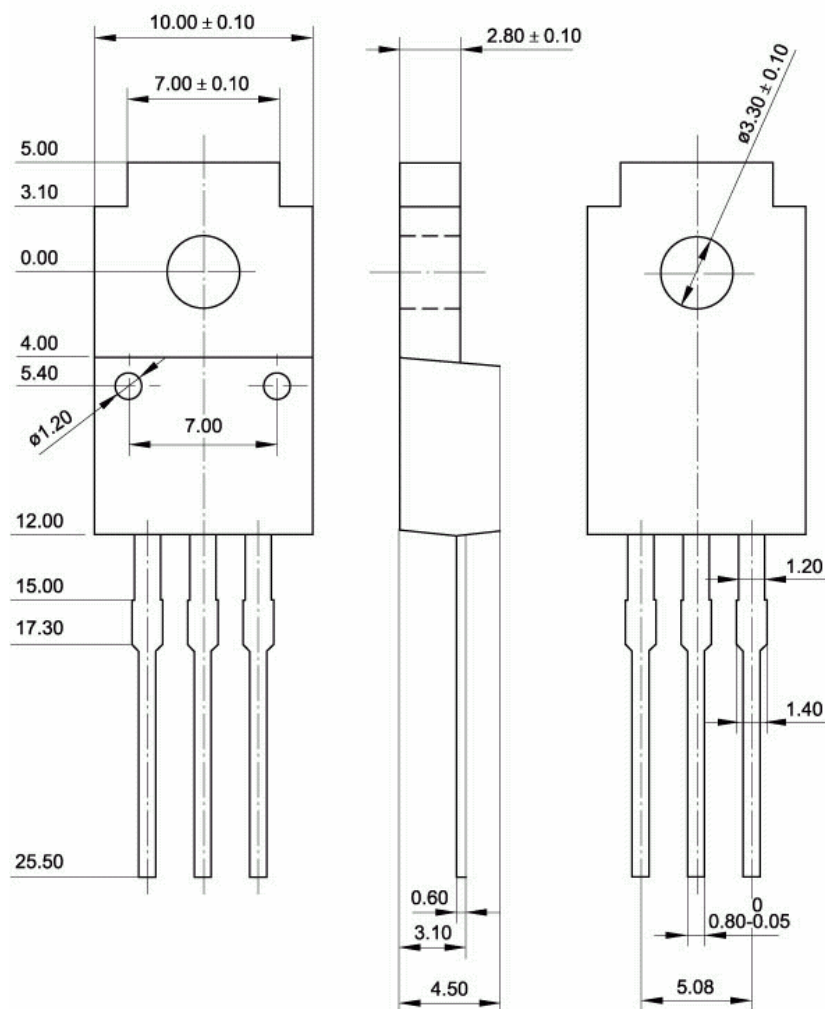


Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

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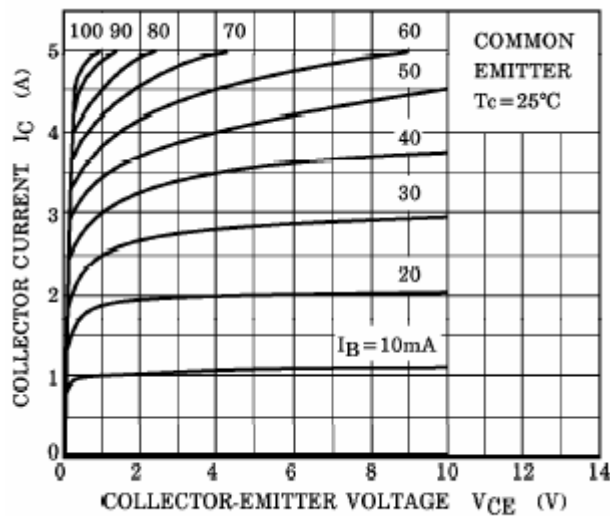


Fig.3 Static Characteristic

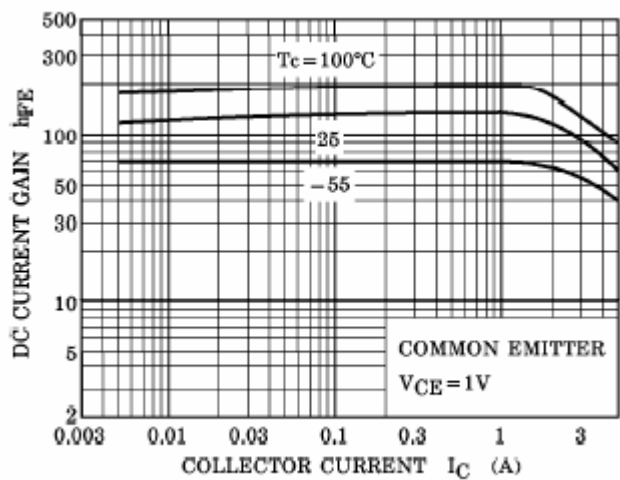


Fig.4 DC current Gain

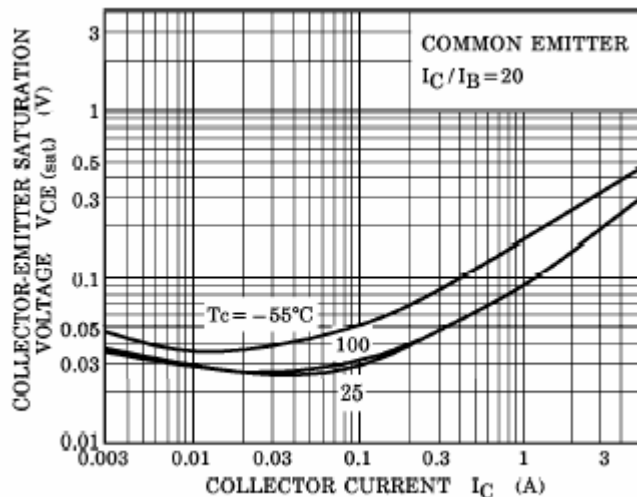


Fig.5 Collector-Emitter Saturation Voltage

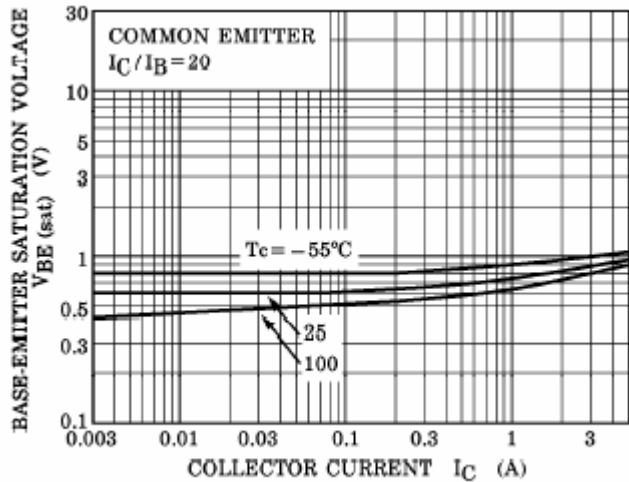


Fig.6 Base-Emitter Saturation Voltage

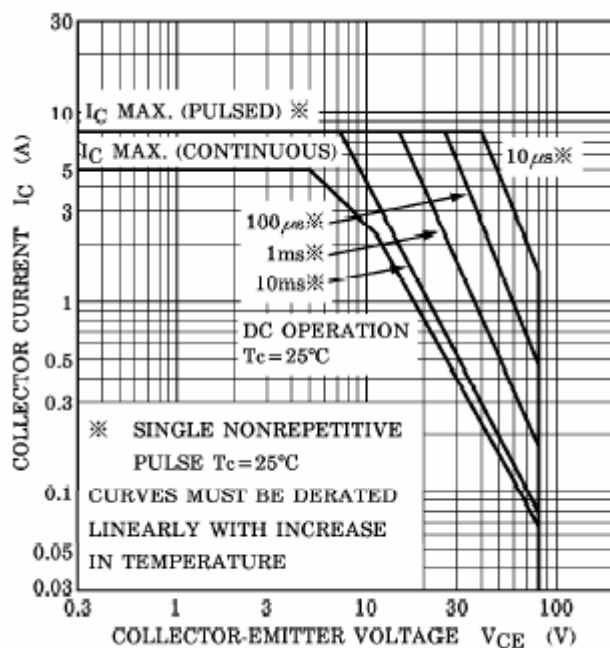


Fig.7 Safe Operating Area