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

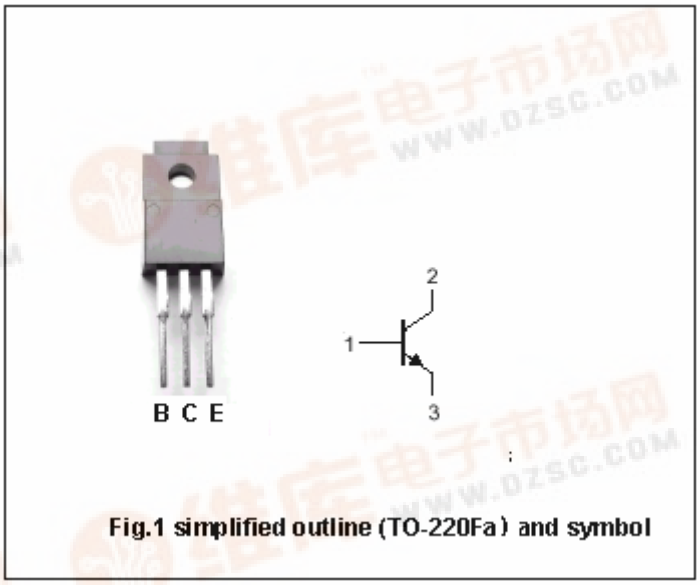

Fig.1 simplified outline (TO-220Fa) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings(Ta=25℃)

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℃	2	W
		T_C=25℃	25	
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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CHARACTERISTICS

Tj=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	Trainsition 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}\approx$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

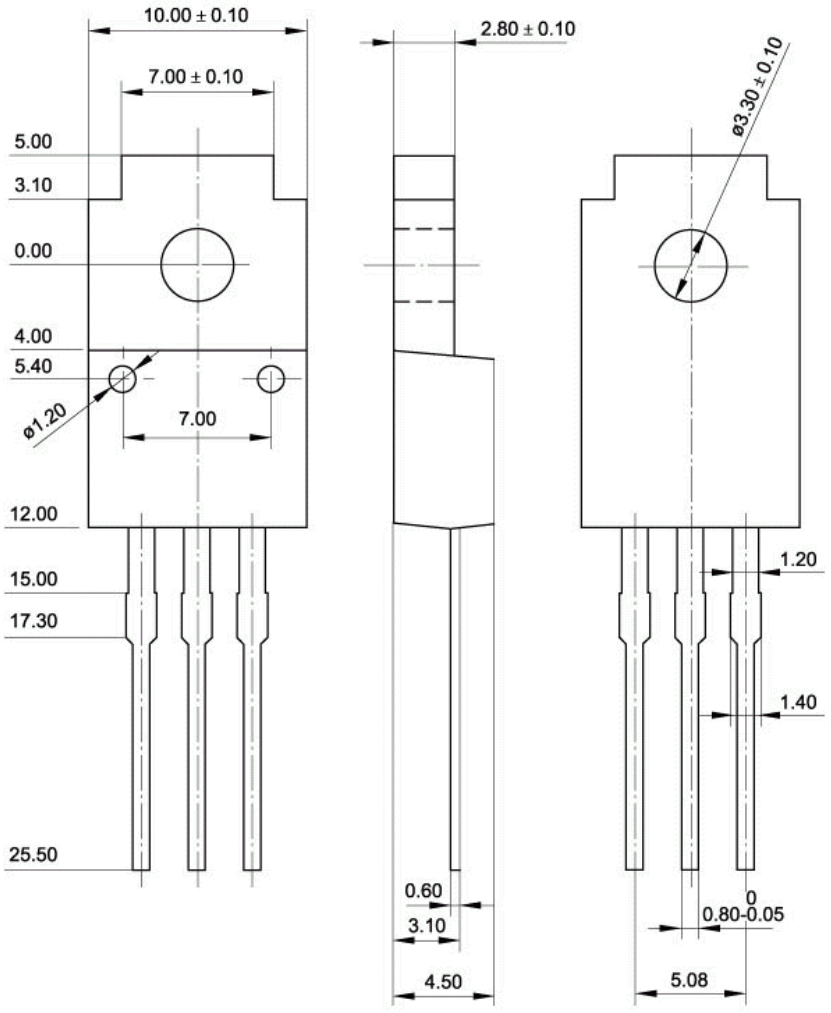

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

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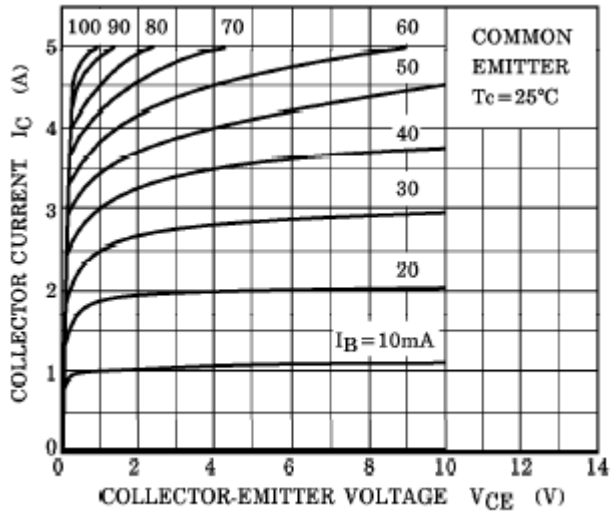

Fig.3 Static Characteristic

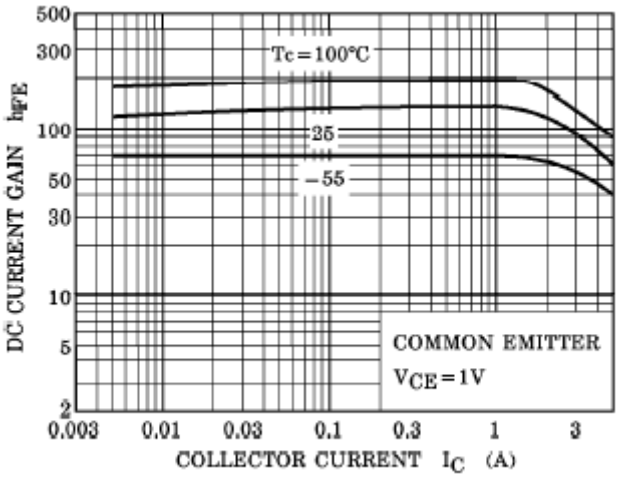

Fig.4 DC current Gain

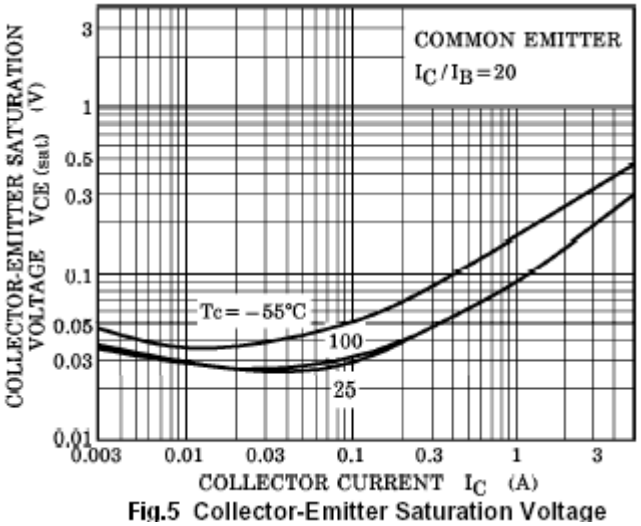

Fig.5 Collector-Emitter Saturation Voltage

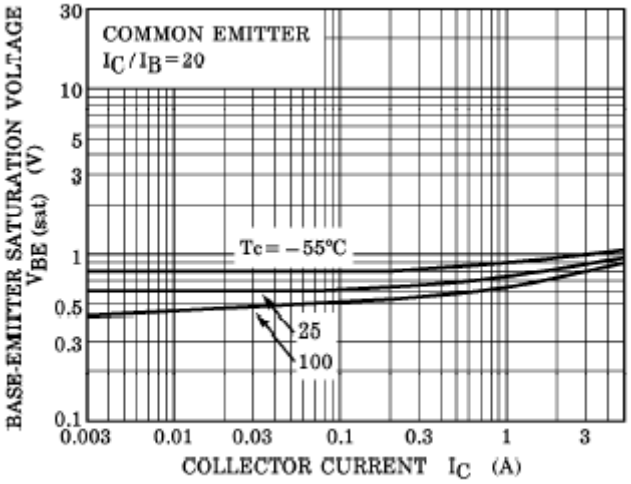

Fig.6 Base-Emitter Saturation Voltage

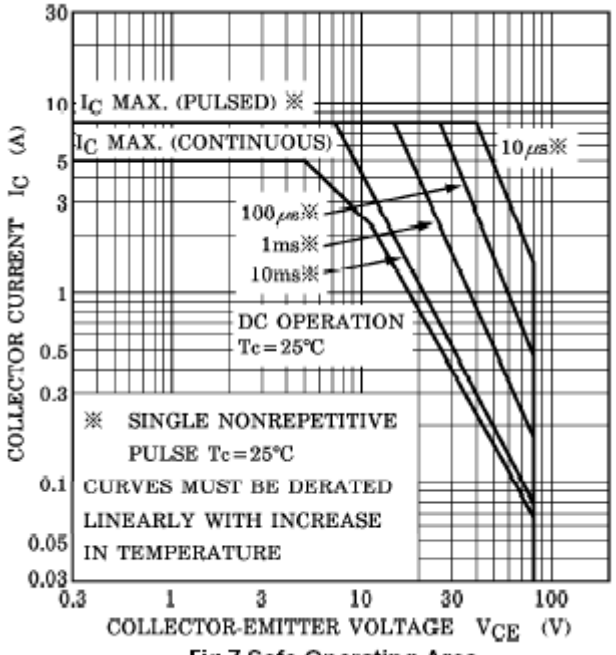

Fig.7 Safe Operating Area