

Silicon NPN Power Transistors

2SC3710

DESCRIPTION

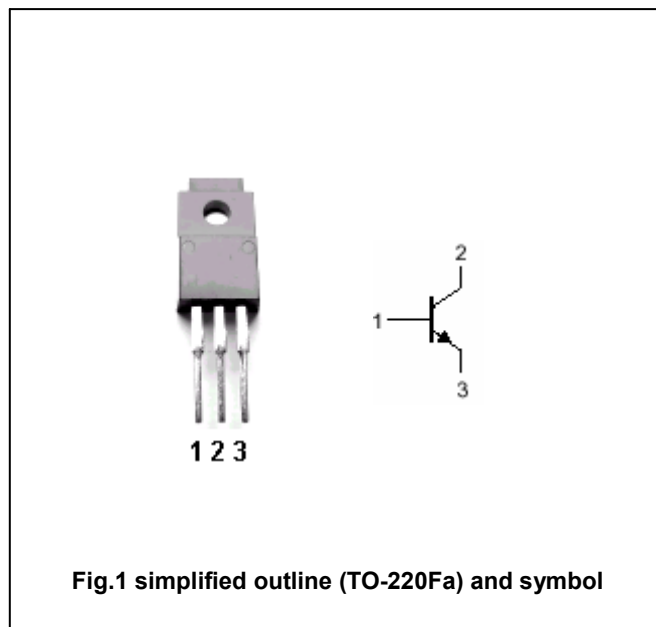
- With TO-220Fa package
- Complement to type 2SA1452
- Low collector saturation voltage
- High speed switching time

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	80	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		12	A
I_B	Base current		2	A
P_C	Collector dissipation	$T_C=25^\circ\text{C}$	30	W
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	$I_C=50mA ; I_B=0$	80			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=6A ; I_B=0.3A$		0.2	0.4	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=6A ; I_B=0.3A$		0.9	1.2	V
I_{CBO}	Collector cut-off current	$V_{CB}=80V ; I_E=0$			10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=6V ; I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=1A ; V_{CE}=1V$	70		240	
h_{FE-2}	DC current gain	$I_C=6A ; V_{CE}=1V$	40			
C_{OB}	Output capacitance	$I_E=0 ; V_{CB}=10V, f=1MHz$		220		pF
f_T	Transition frequency	$I_C=1A ; V_{CE}=5V$		80		MHz

Switching times

t_{on}	Turn-on time	$I_{B1}=-I_{B2}=0.3A$ $V_{CC}\approx 30V, R_L=5\Omega$		0.2		μs
t_s	Storage time			1.0		μs
t_f	Fall time			0.2		μs

◆ h_{FE-1} Classifications

O	Y
70-140	120-240

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PACKAGE OUTLINE

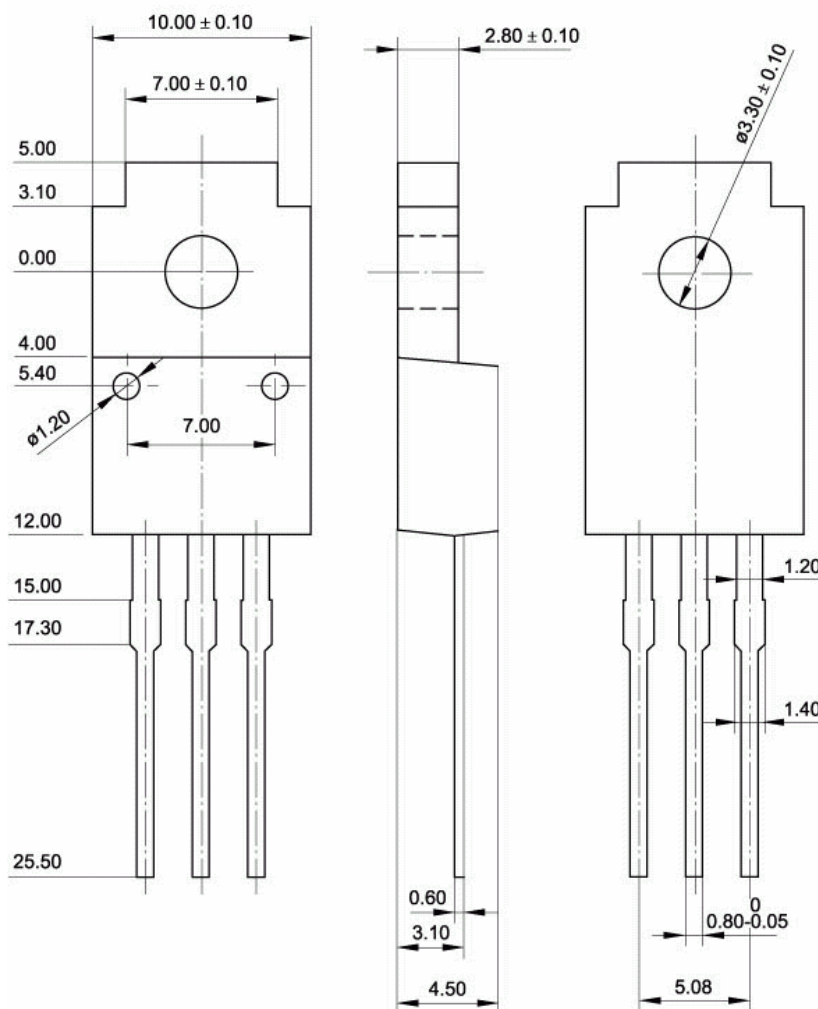


Fig.2 Outline dimensions

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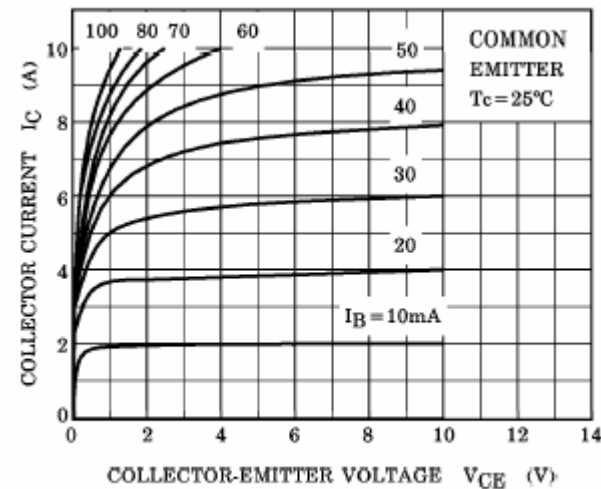


Fig.3 Static Characteristic

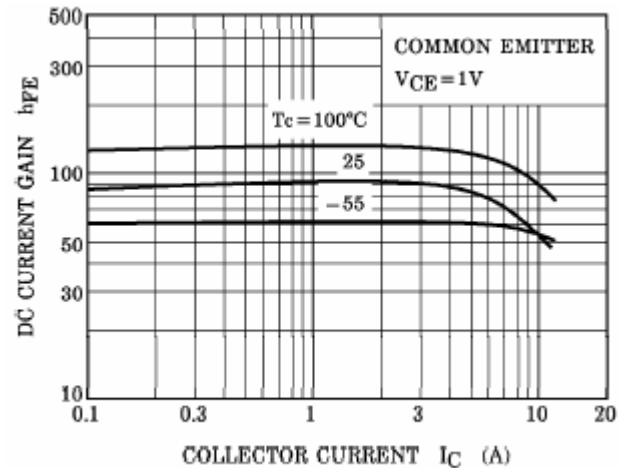


Fig.4 DC current Gain

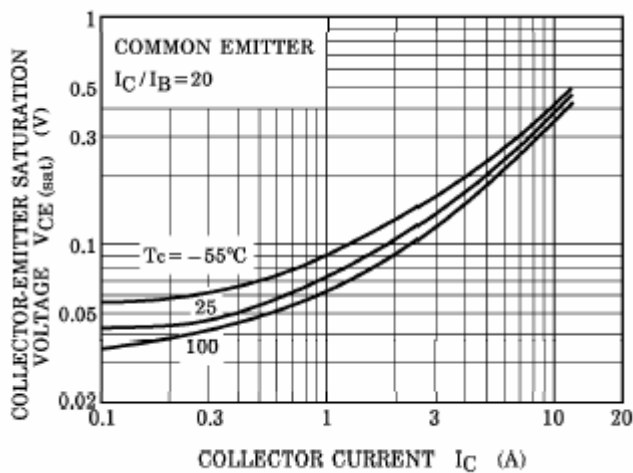


Fig.5 Collector-Emitter Saturation Voltage

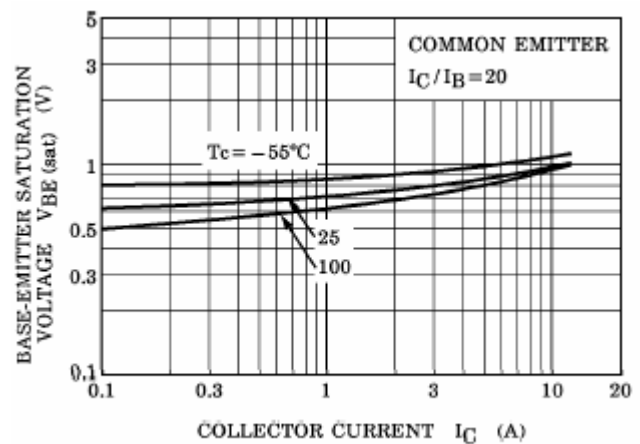


Fig.6 Base-Emitter Saturation Voltage

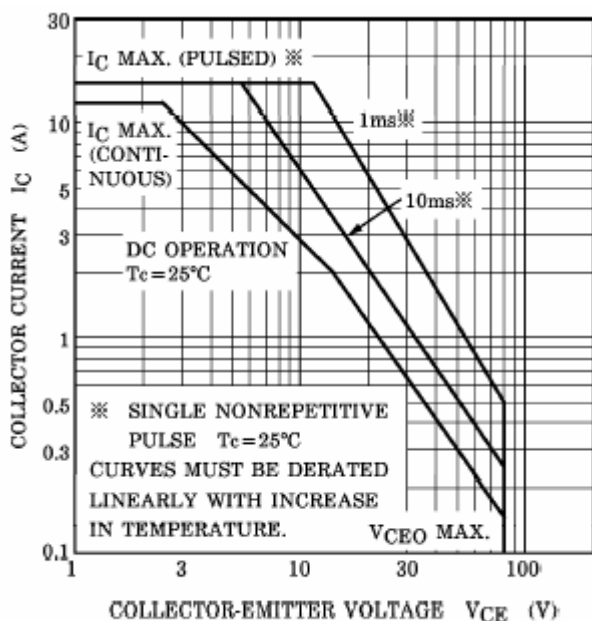


Fig.7 Safe Operating Area