

Silicon PNP Power Transistors

2SA1388

DESCRIPTION

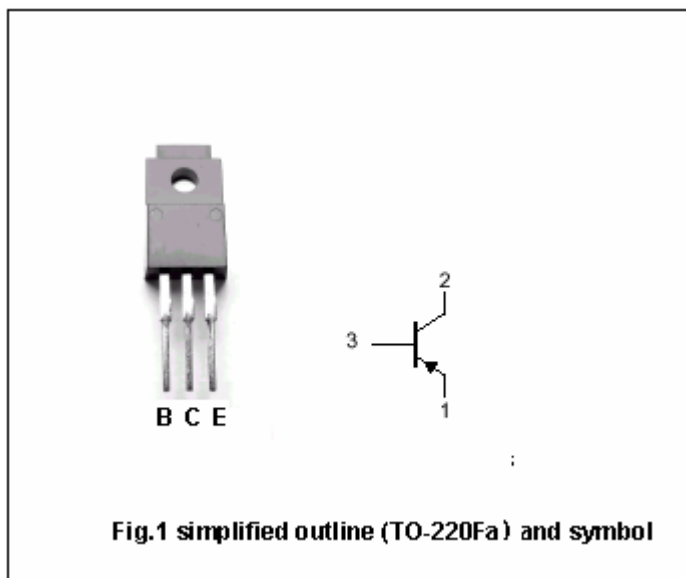
- With TO-220Fa package
- Low collector saturation voltage
- High speed switching time
- Complementary to 2SC3540

APPLICATIONS

- High current switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

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 (pulse)		-8	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

Tj=25°C 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	$I_C=-3A ; V_{CE}=-1V$	30			
f_T	Transistion frequency	$I_C=-1A ; V_{CE}=-4V$		60		MHz
C_{ob}	Collector output capacitance	$I_E=0 ; V_{CE}=-10V ; f=1MHz$		200		pF

Switching times

t_{on}	Turn-on time	$I_{B1}=-I_{B2}=-0.15A$ $V_{CC}=30V ; R_L=10\Omega$		0.2		μs
t_s	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

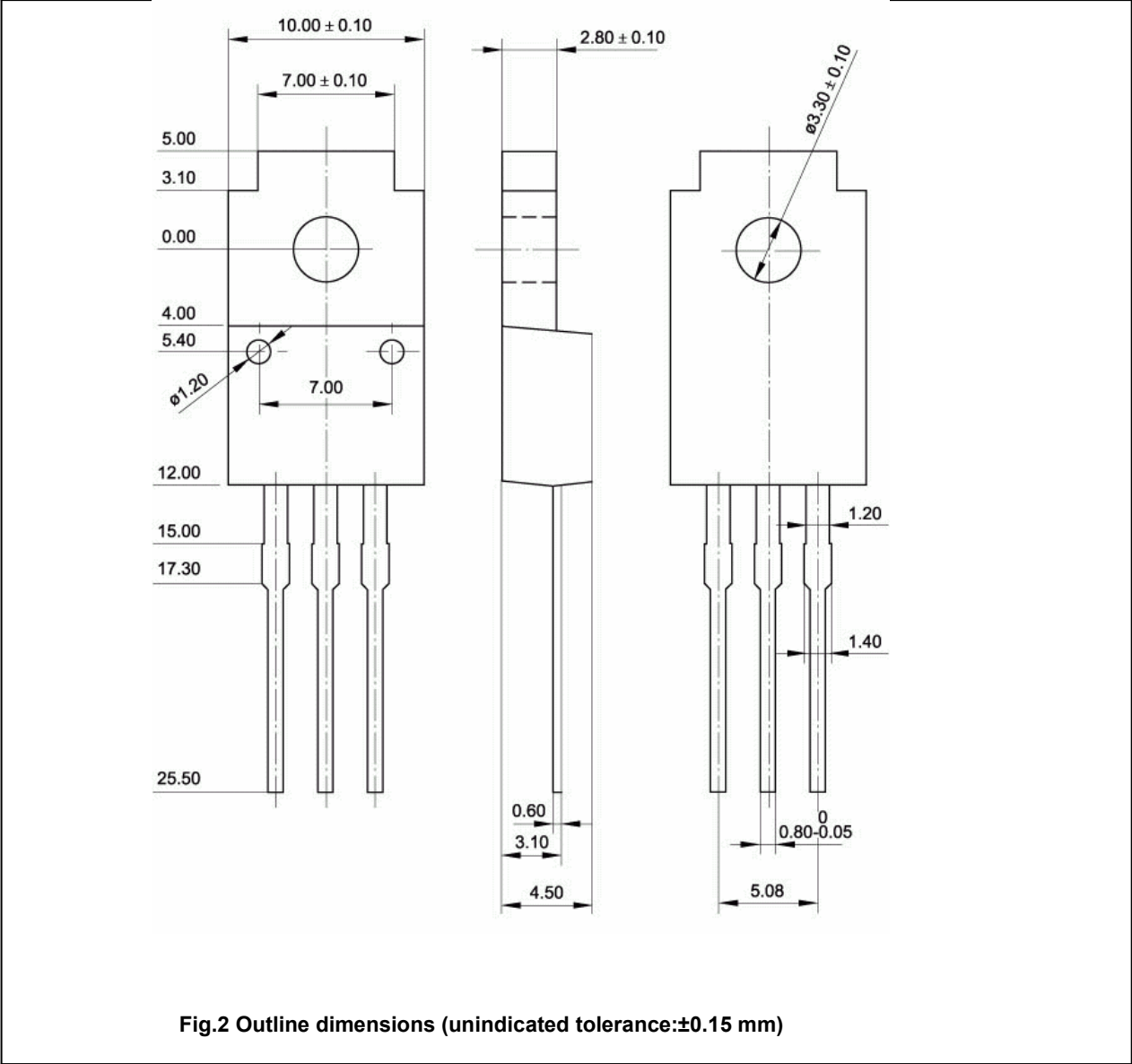


Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

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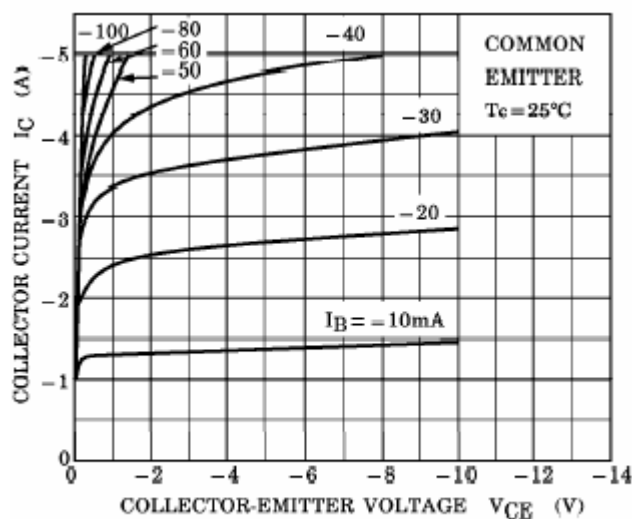


Fig.3 Static Characteristic

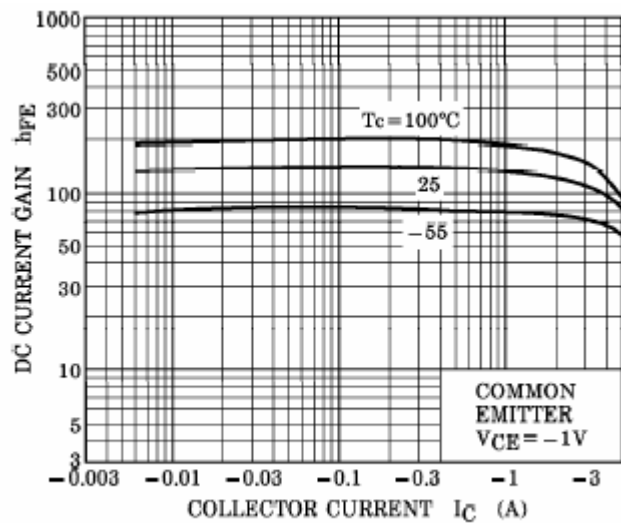


Fig.4 DC current Gain

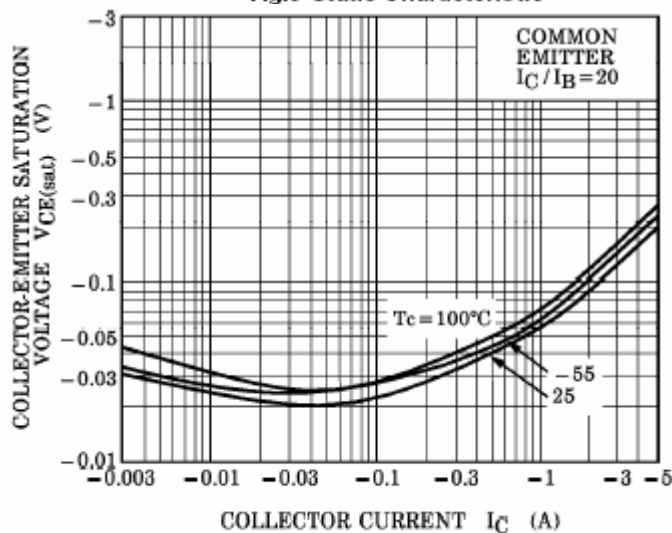


Fig.5 Collector-Emitter Saturation Voltage

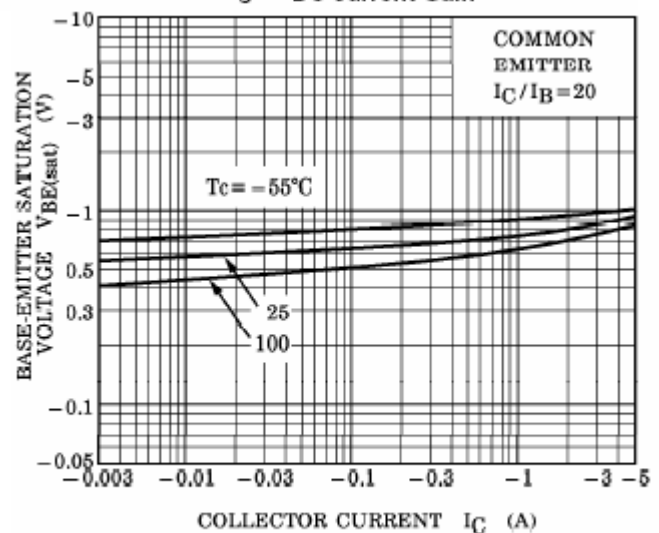


Fig.6 Base-Emitter Saturation Voltage

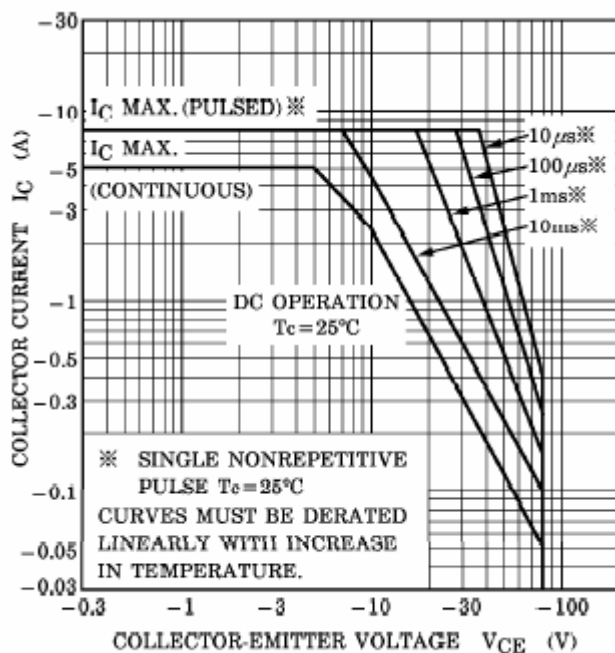


Fig.7 Safe Operating Area