

Silicon PNP Power Transistors

2SB1015

DESCRIPTION

- With TO-220Fa package
- Collector power dissipation
: $P_C=25W@T_C=25$
- Low collector saturation voltage
- Complement to type 2SD1406

APPLICATIONS

- For audio frequency power amplifier applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

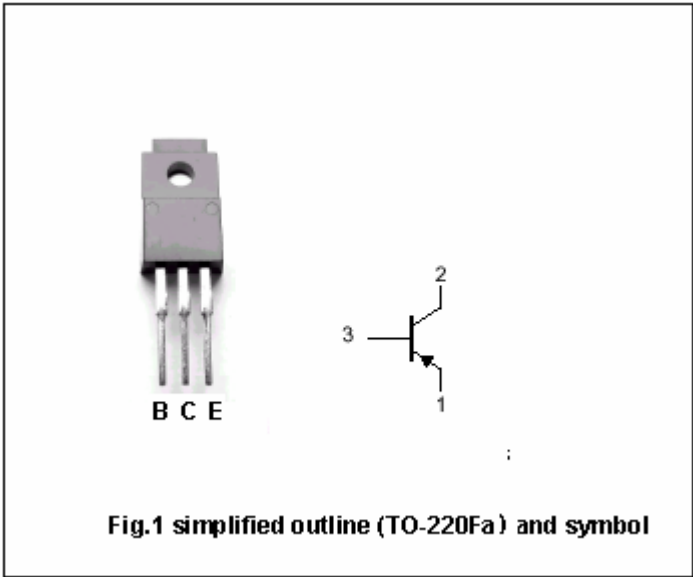


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings($T_a=25$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-60	V
V_{CEO}	Collector-emitter voltage	Open base	-60	V
V_{EBO}	Emitter-base voltage	Open collector	-7	V
I_C	Collector current		-3	A
I_B	Base current		-0.5	A
P_C	Collector power dissipation	$T_a=25$	2.0	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
$V_{CEO(BR)}$	Collector-emitter breakdown voltage	$I_C=-50mA; I_B=0$	-60			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=-3A; I_B=-0.3A$			-1.7	V
V_{BE}	Base-emitter voltage	$I_C=-0.5A; V_{CE}=-5V$			-1.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=-60V; I_E=0$			-100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=-7V; I_C=0$			-100	μA
h_{FE-1}	DC current gain	$I_C=-0.5A; V_{CE}=-5V$	60		200	
h_{FE-2}	DC current gain	$I_C=-3A; V_{CE}=-5V$	20			
f_T	Transition frequency	$I_C=-0.5A; V_{CE}=-5V$		9		MHz
C_{OB}	Collector output capacitance	$f=1MHz; V_{CB}=-10V$		150		pF

Switching times

t_{on}	Trun-on time	$R_L=15\Omega; V_{CC}=-30V$ $I_{B1}=-I_{B2}=-0.2A$ Duty cycle $\leq 1\%$		0.4		μs
t_s	Storage time			1.7		μs
t_f	Fall time			0.5		μs

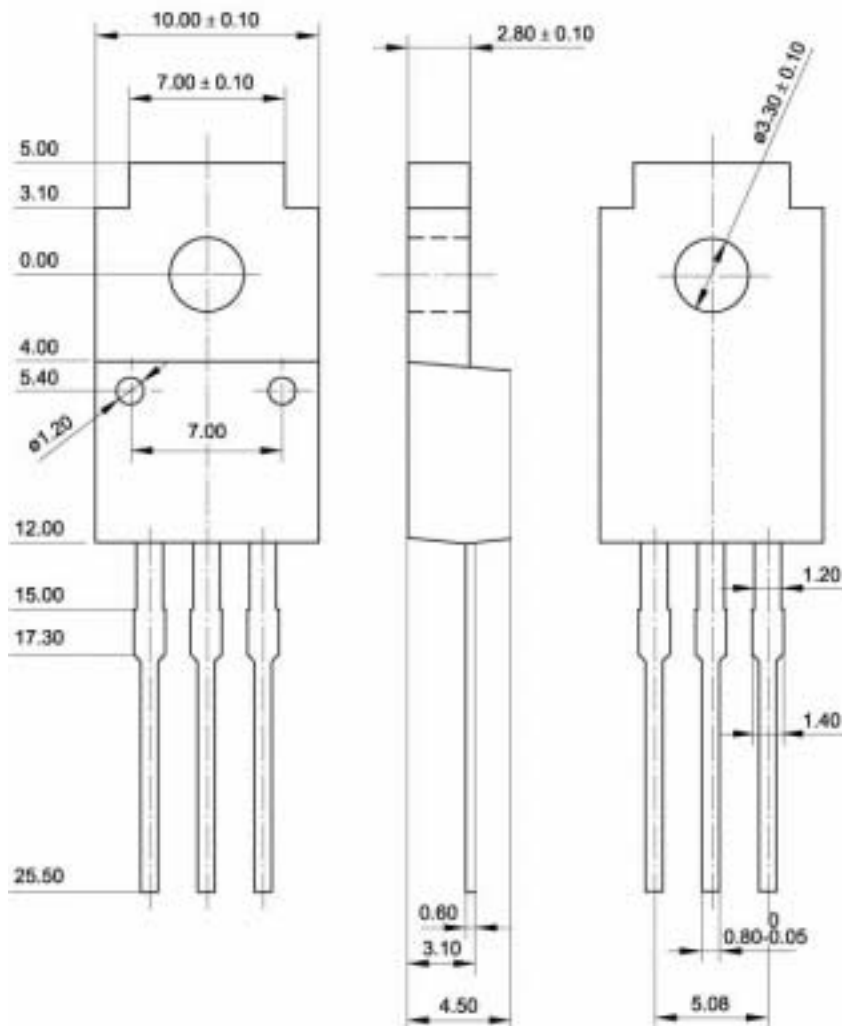
◆ h_{FE-1} Classifications

O	Y
60-120	100-200

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PACKAGE OUTLINE

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

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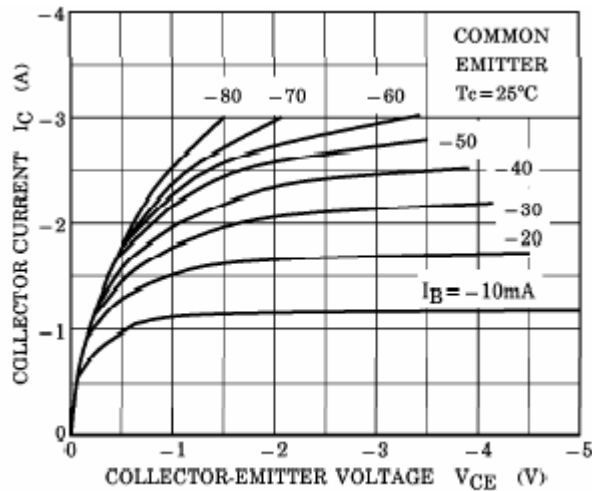


Fig.3 Static Characteristic

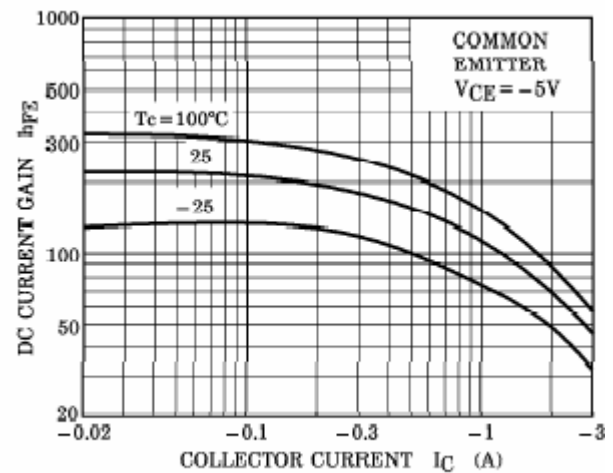


Fig.4 DC current Gain

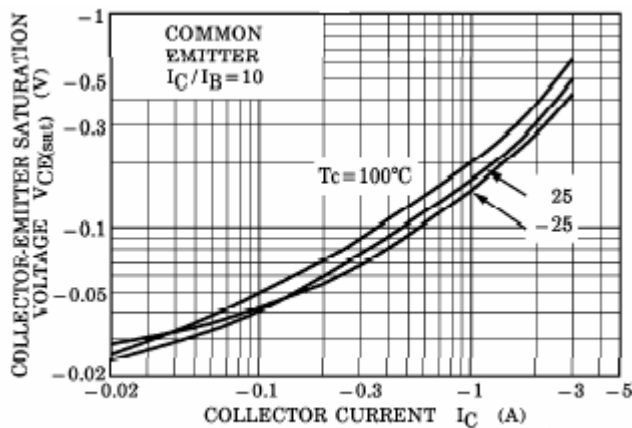


Fig.5 Collector-Emitter Saturation Voltage

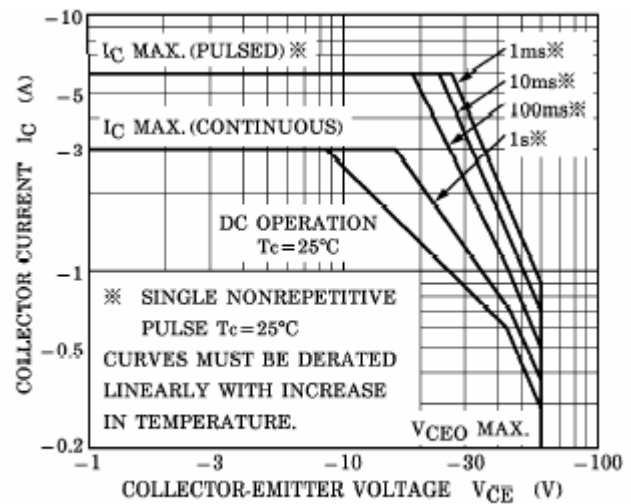


Fig.6 Safe Operating Area