

## Silicon PNP Power Transistors

2SA1110

## DESCRIPTION

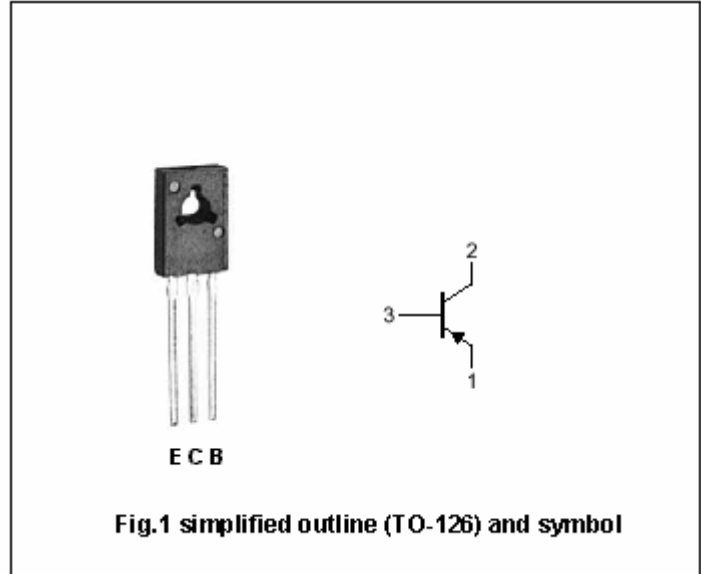
- With TO-126 package
- Complement to type 2SC2590
- Excellent current  $I_C$  characteristics of forward current transfer ratio  $h_{FE}$  vs. collector
- High transition frequency  $f_T$
- Optimum for the driver stage of a 40w to 60w output amplifier

## APPLICATIONS

- For low-frequency power amplification

## PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector;connected to mounting base
3	Base

Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	-120	V
$V_{CEO}$	Collector-emitter voltage	Open base	-120	V
$V_{EBO}$	Emitter-base voltage	Open collector	-5	V
$I_C$	Collector current (DC)		-0.5	A
$I_{CM}$	Collector current-Peak		-1.0	A
$P_C$	Collector power dissipation	$T_C=25$	1.2*	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

Note) \*: Without heat sink

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## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-100 μ A; I <sub>B</sub> =0	-120			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =-10 μ A; I <sub>C</sub> =0	-5			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-0.3A; I <sub>B</sub> =-30mA			-1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-0.3A; I <sub>B</sub> =-30mA			-1.2	V
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-150mA; V <sub>CE</sub> =-10V	65		330	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-5V	50	100		
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V; f=1MHz			30	pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-50mA; V <sub>CB</sub> =-10V,		200		MHz

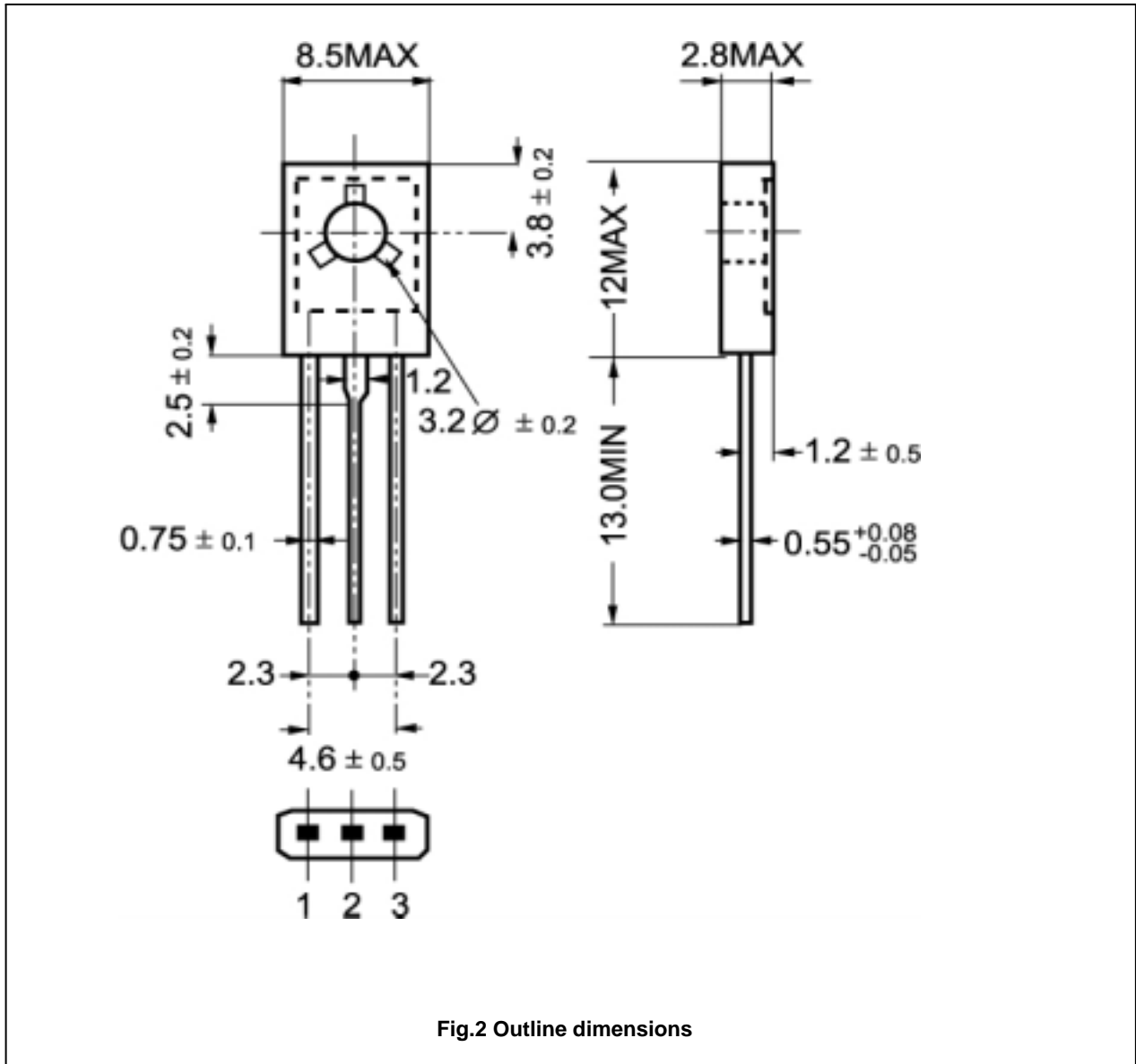
◆ h<sub>FE-1</sub> Classifications

P	Q	R	S
65-110	90-155	130-220	185-330

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PACKAGE OUTLINE



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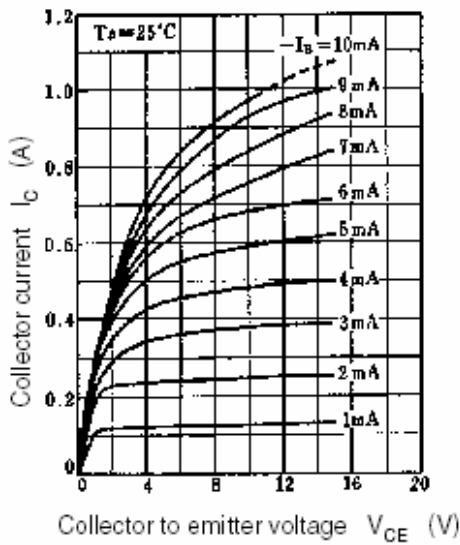


Fig.3 Static Characteristic

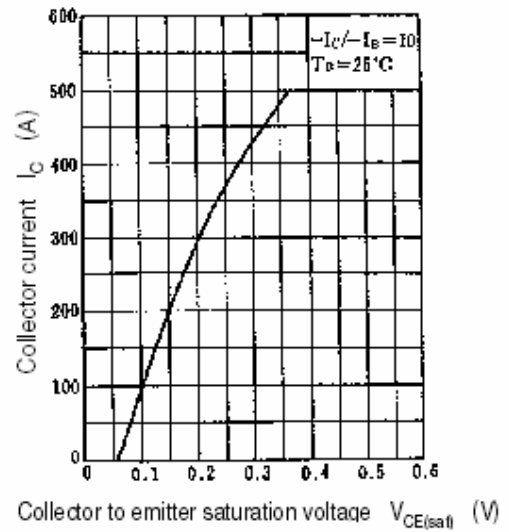


Fig.4  $I_C - V_{CE(sat)}$

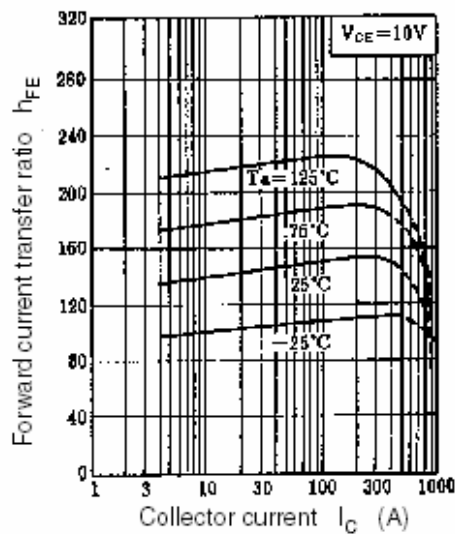


Fig.5 DC current Gain

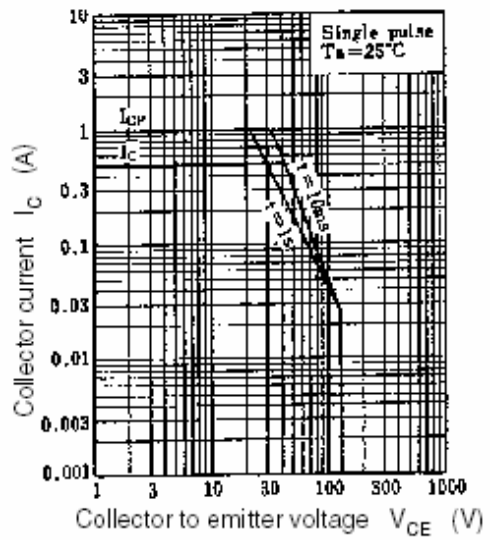


Fig.6 Safe Operating Area