

Silicon PNP Power Transistors

2SB631 2SB631K

DESCRIPTION

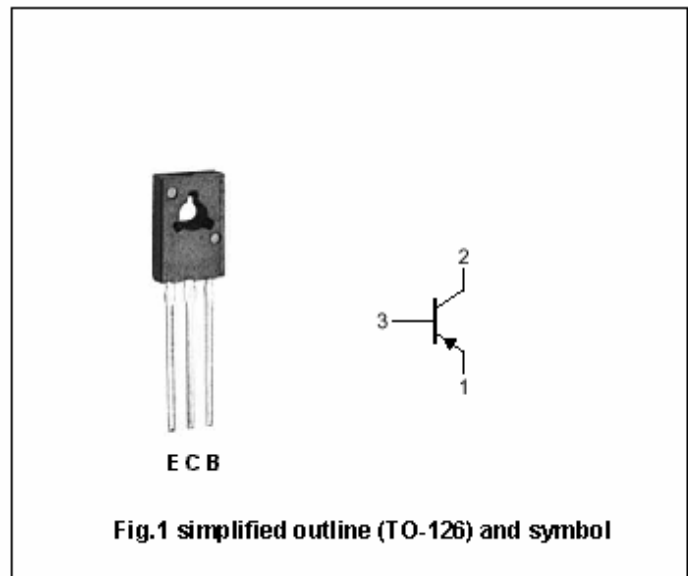
- With TO-126 package
- Complement to type 2SD600/K
- High breakdown voltage V_{CEO} : -100/-120V
- High current: -1A
- Low saturation voltage, excellent h_{FE} linearity

APPLICATIONS

- For low-frequency power amplifier applications

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	2SB631	-100	V
		2SB631K	-120	
V_{CEO}	Collector-emitter voltage	2SB631	-100	V
		2SB631K	-120	
V_{EBO}	Emitter-base voltage	Open collector	-5	V
I_C	Collector current (DC)		-1	A
I_{CM}	Collector current-Peak		-2	A
P_D	Total power dissipation	$T_a=25^\circ\text{C}$	1	W
		$T_c=25^\circ\text{C}$	8	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{(BR)CEO}	Collector-emitter breakdown voltage	2SB631	I _C =-1mA; R _{BE} =∞	-100			V
		2SB631K		-120			
V _{(BR)CBO}	Collector-base breakdown voltage	2SB631	I _C =-10μA; I _E =0	-100			V
		2SB631K		-120			
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =-10μA; I _C =0	-5			V	
V _{CEsat}	Collector-emitter saturation voltage	I _C =-0.5A; I _B =-50mA			-0.4	V	
V _{BEsat}	Base-emitter saturation voltage	I _C =-0.5A; I _B =-50mA			-1.2	V	
I _{CBO}	Collector cut-off current	V _{CB} =-50V; I _E =0			-1	μA	
I _{EBO}	Emitter cut-off current	V _{EB} =-4V; I _C =0			-1	μA	
h _{FE-1}	DC current gain	I _C =-50mA; V _{CE} =-5V	60		320		
h _{FE-2}	DC current gain	I _C =-0.5A; V _{CE} =-5V	20				
f _T	Transition frequency	I _C =-50mA; V _{CE} =-10V		110		MHz	
C _{OB}	Collector output capacitance	f=1MHz; V _{CB} =-10V		30		pF	

Switching times

t _f	Fall time	I _C =-500mA; V _{CE} =-12V I _{B1} =-I _{B2} =-50mA		0.08		μs
t _{off}	Turn-off time			0.10		μs
t _{stg}	Storage time			0.60		μs

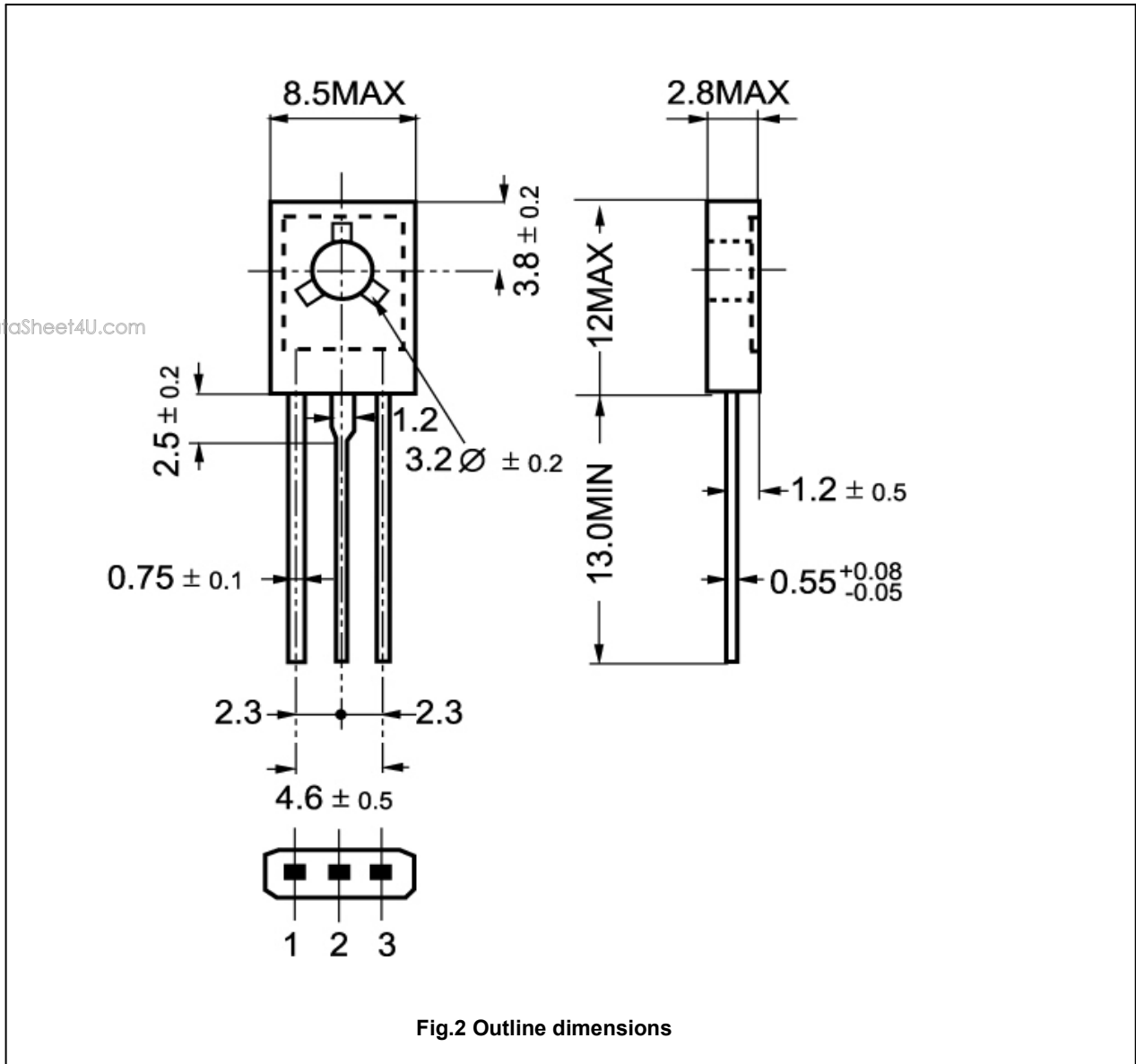
◆ h_{FE-1} Classifications

D	E	F
60-120	100-200	160-320

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PACKAGE OUTLINE



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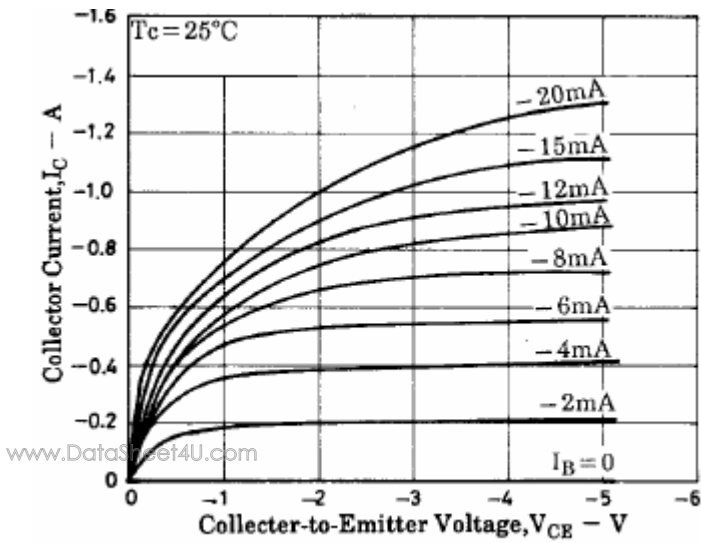


Fig.3 Static Characteristic

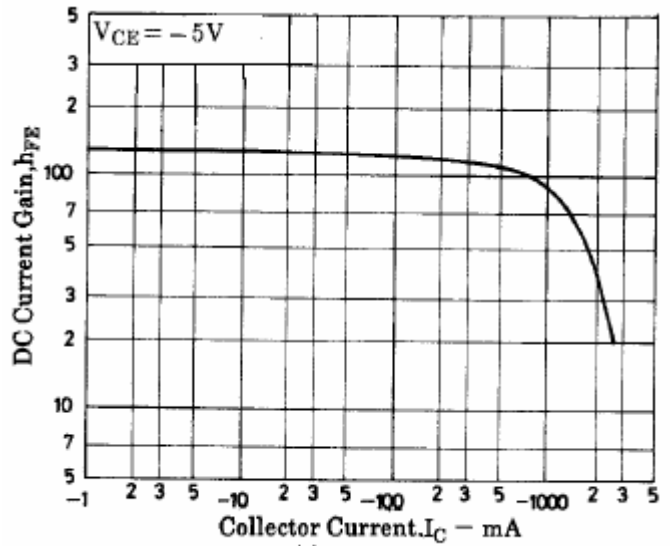


Fig.4 DC current Gain

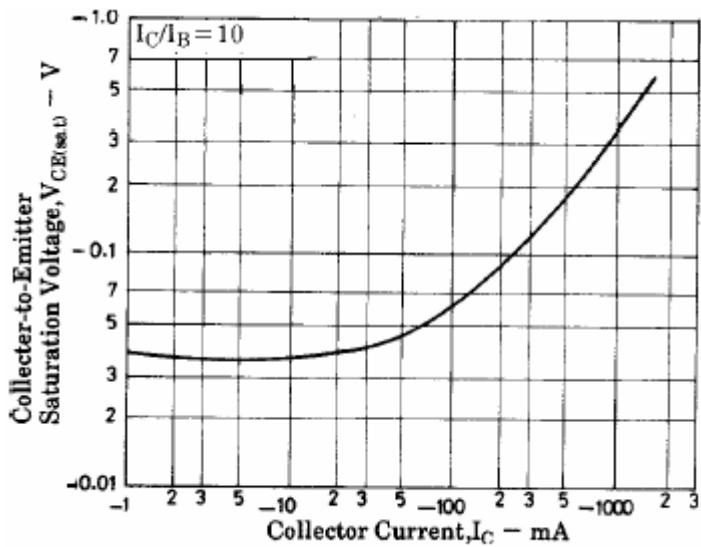


Fig.5 Collector-Emmitter Saturation Voltage

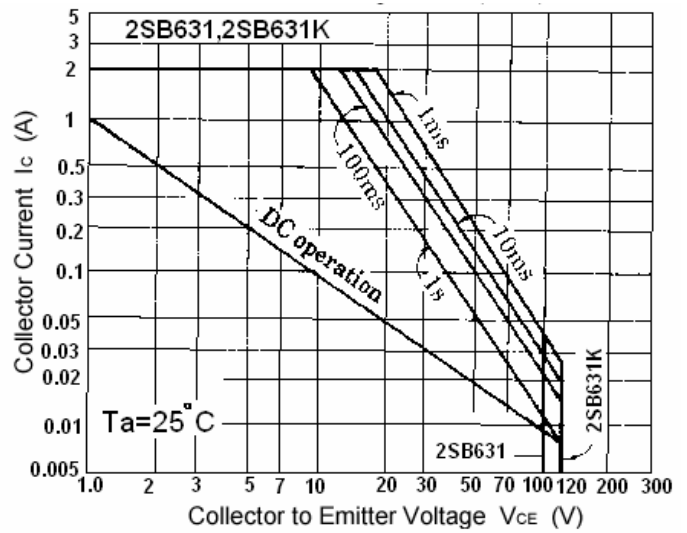


Fig.6 Safe Operating Area