Silicon NPN Power Transistors 2SD669 2SD669A

DESCRIPTION

- With TO-126 package
- Complement to type 2SB649/649A
- High breakdown voltage $V_{CEO:}$120/160V
- High current 1.5A
- Low saturation voltage,excellent h_{FE} linearity

APPLICATIONS

- For low-frequency power amplifier applications

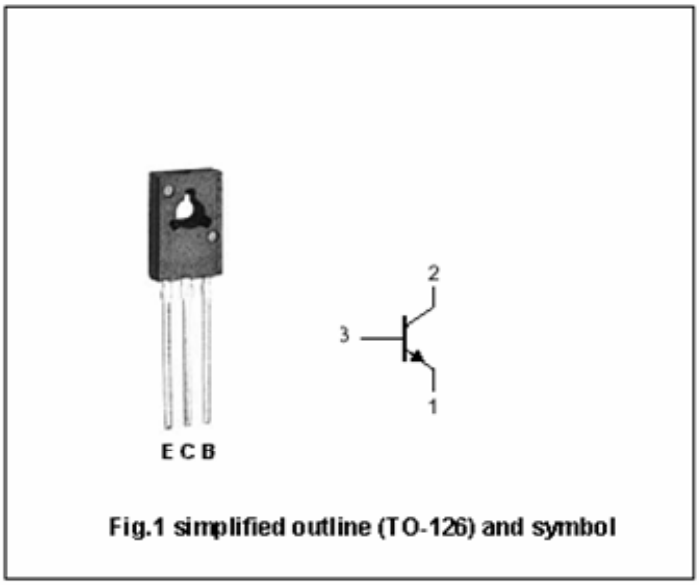

Fig.1 simplified outline (TO-126) and symbol

PINNING

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

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SD669	Open emitter	180	V
		2SD669A		180	
V_{CEO}	Collector-emitter voltage	2SD669	Open base	120	V
		2SD669A		160	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current (DC)			1.5	A
I_{CM}	Collector current-peak			3	A
P_D	Total power dissipation		T_a=25℃	1	W
			T_C=25℃	20	
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
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	2SD669	I_C=10mA; R_{BE}=∞	120			V
		2SD669A		160			
$V_{(BR)CBO}$	Collector-base breakdown voltage	2SD669	I_C=1m A ;I_E=0	180			V
		2SD669A		180			
$V_{(BR)EBO}$	Emitter-base breakdown voltage		I_E=1mA ;I_C=0	5			V
V_{CEsat}	Collector-emitter saturation voltage		I_C=0.5A ;I_B=50mA			1.0	V
V_{BE}	Base-emitter on voltage		I_C=150mA ; V_{CE}=5V			1.5	V
I_{CBO}	Collector cut-off current		V_{CB}=160V; I_E=0			10	μA
h_{FE-1}	DC current gain	2SD669	I_C=150mA ; V_{CE}=5V	60		320	
		2SD669A		60		200	
h_{FE-2}	DC current gain		I_C=0.5A ; V_{CE}=5V	30			
f_T	Transition frequency		I_C=150mA ; V_{CE}=5V		140		MHz
C_{OB}	Collector output capacitance		f=1MHz ; V_{CB}=10V		14		pF

◆ **h_{FE} Classifications**

h_{FE-1}	B	C	D
2SB649	60-120	100-200	160-320
2SB649A	60-120	100-200	

PACKAGE OUTLINE

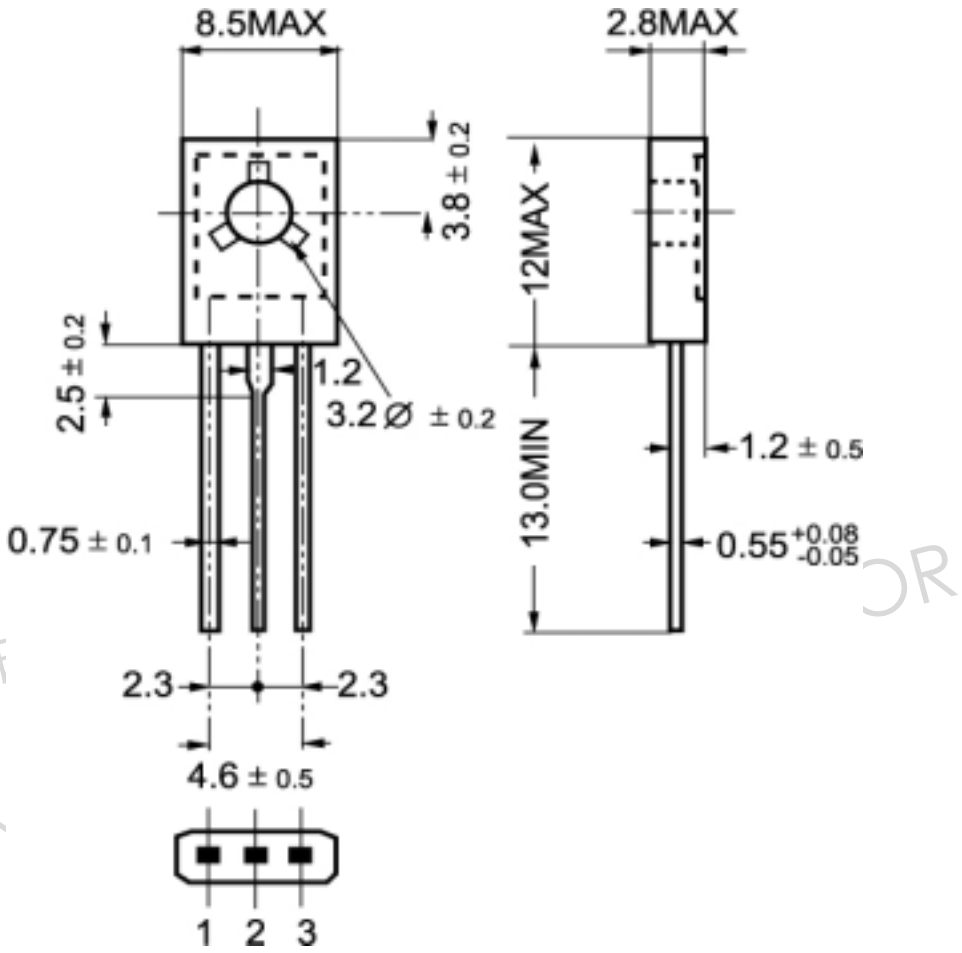

Fig.2 Outline dimensions

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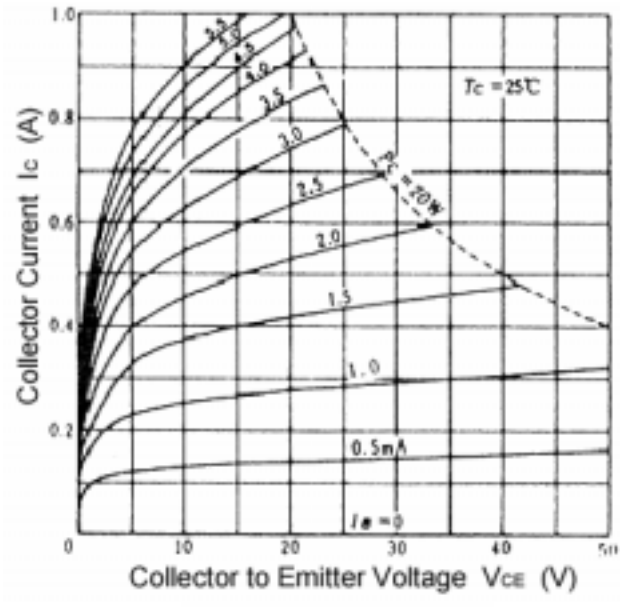

Fig.3 Static Characteristic

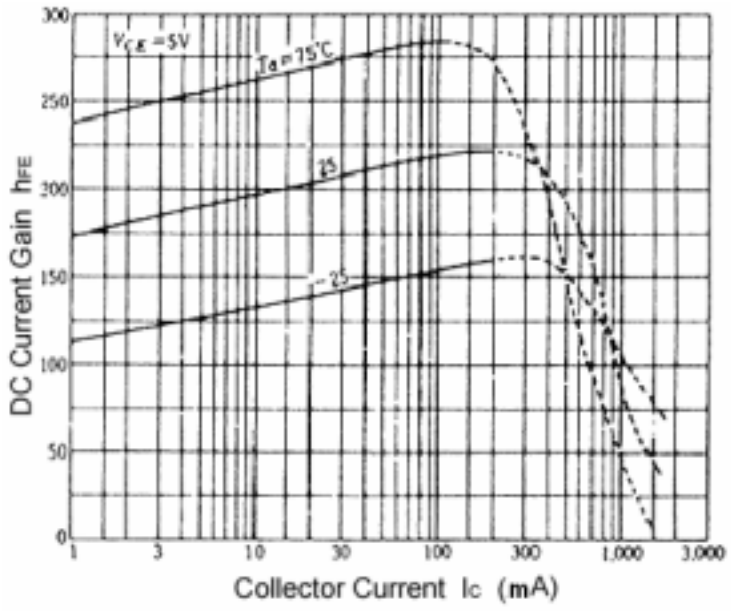

Fig.4 DC current Gain

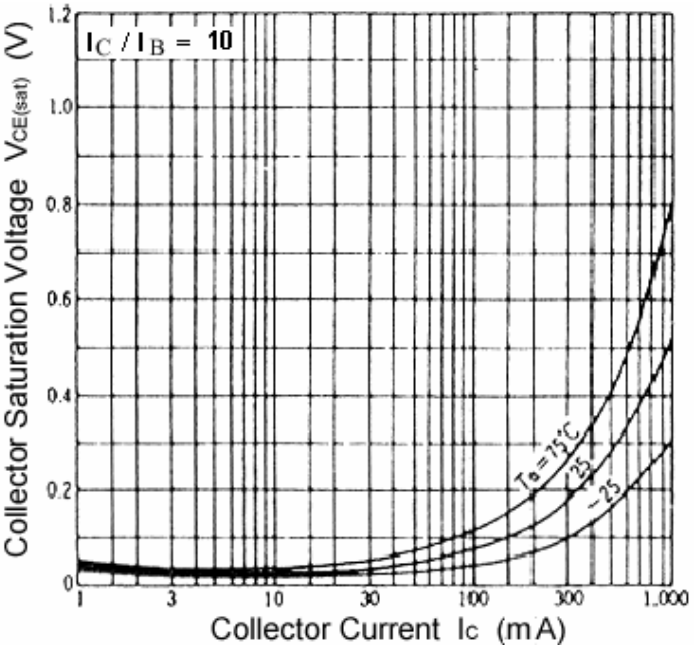

Fig.5 Collector-Emitter Saturation Voltage

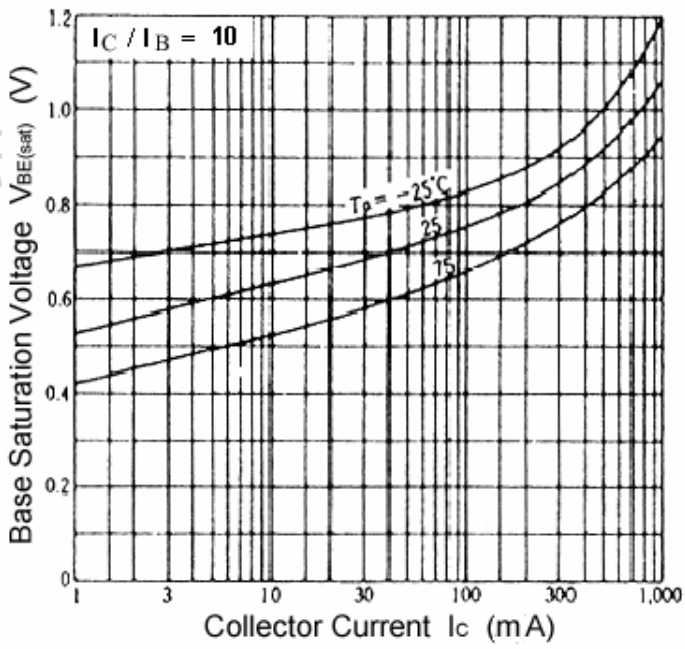

Fig.6 Base-Emitter Saturation Voltage

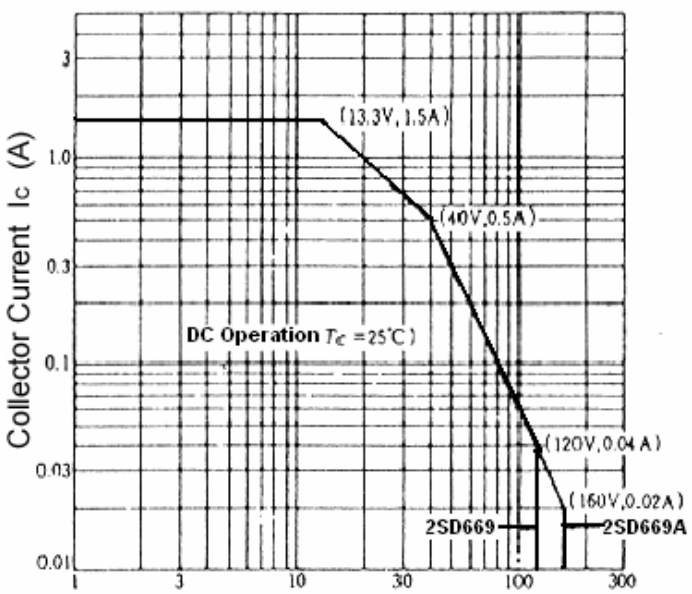

Fig.7 Safe Operating Area