



DONGGUAN NANJING ELECTRONICS LTD.,
TO-126 Plastic-Encapsulate Transistors

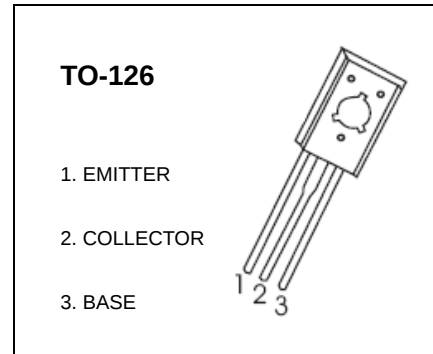
2SB631 2SB631K Silicon PNP Power Transistors

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

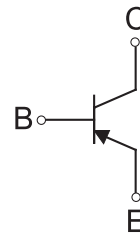
- For low-frequency power amplifier applications



PINNING

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

Equivalent Circuit



Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SB631	Open emitter	-100	V
		2SB631K		-120	
V_{CEO}	Collector-emitter voltage	2SB631	Open base	-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	$T_a=25$		1	W
		$T_c=25$		8	
T_j	Junction temperature			150	
T_{stg}	Storage temperature			-55~150	

ELECTRICAL CHARACTERISTICS

T_j=25 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 =-10 μ A ; I _E =0	-100			V
		2SB631K		-120			
V _{(BR)EBO}	Emitter-base breakdown voltage		I _E =-10 μ A ; 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	μ A
I _{EBO}	Emitter cut-off current		V _{EB} =-4V; I _C =0			-1	μ A
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

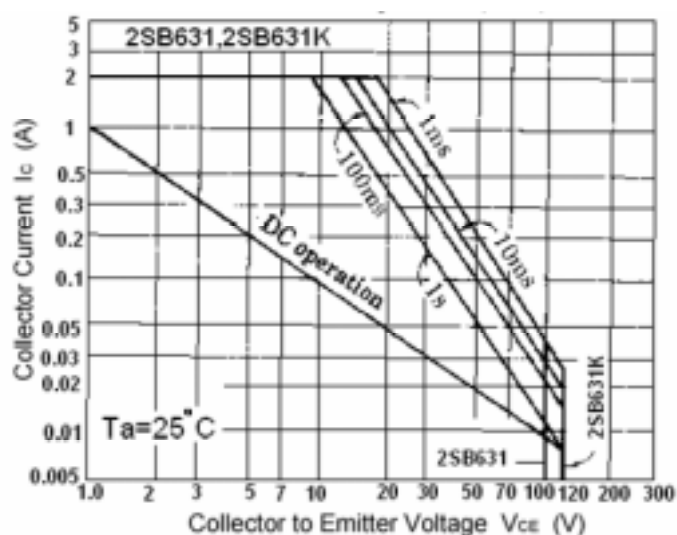
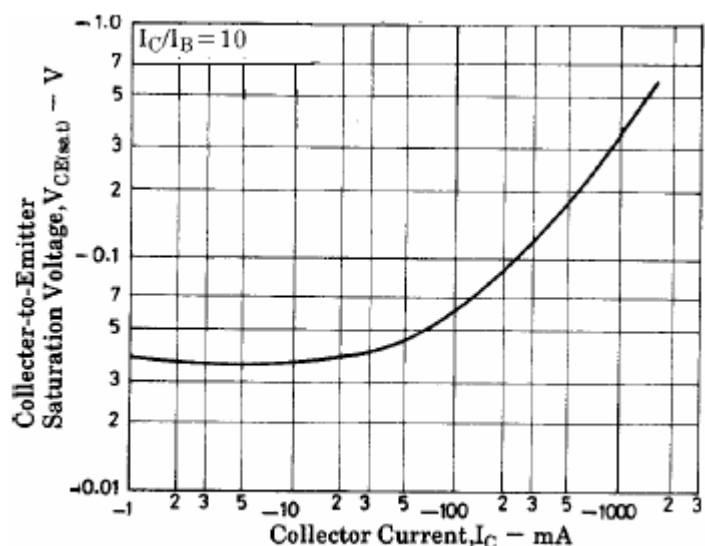
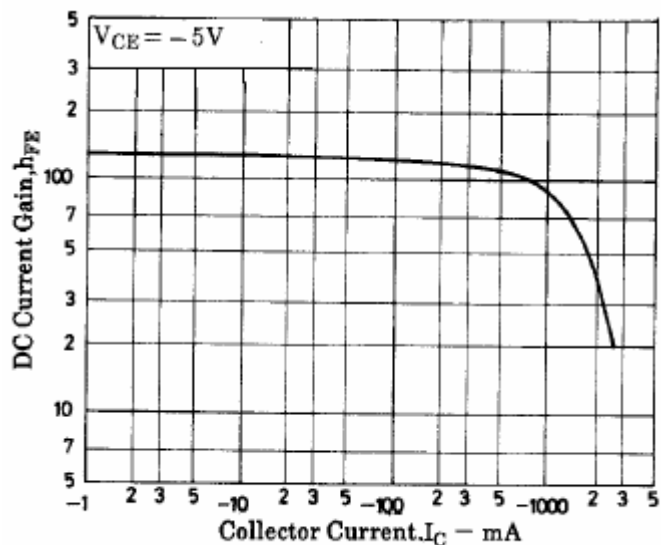
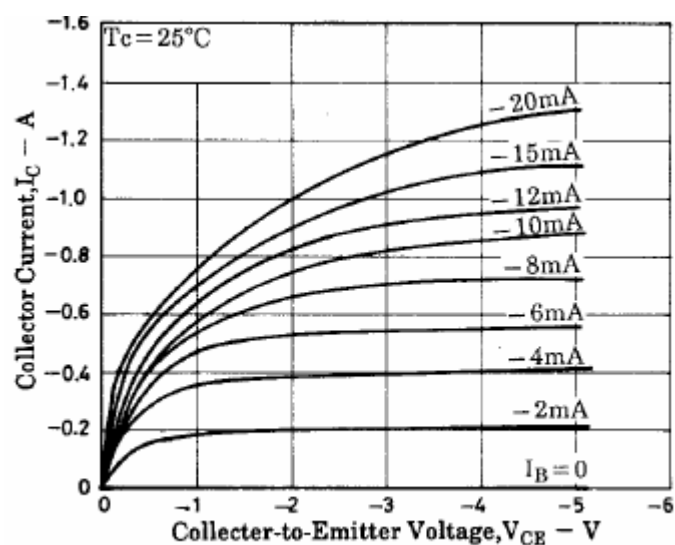
Switching times

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

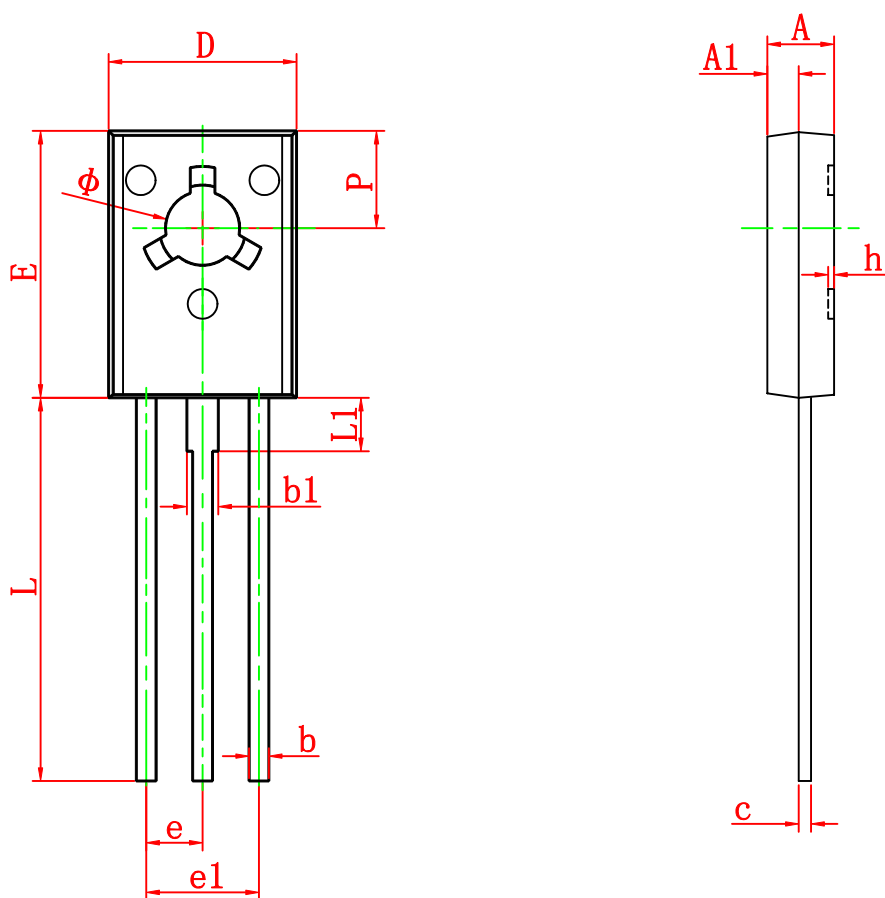
◆ h_{FE-1} Classifications

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

Typical Characteristics



TO-126 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
Φ	3.000	3.200	0.118	0.126