

# Power Transistor (−80V, −1A)

2SB1260 / 2SB1181

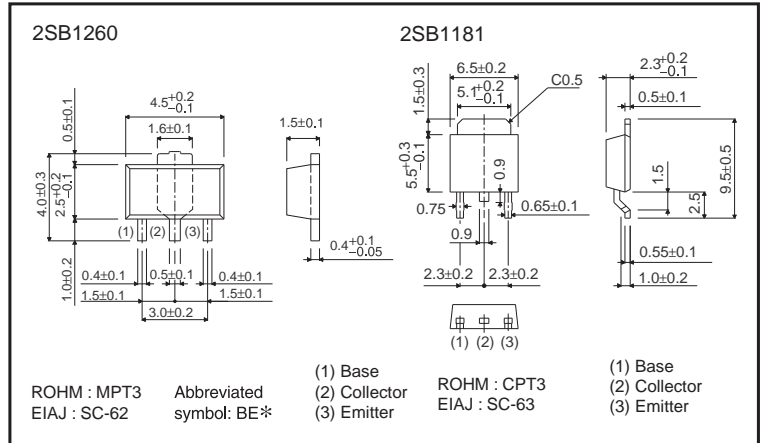
●Features

- 1) High breakdown voltage and high current.  
BV<sub>CEO</sub> = −80V, I<sub>c</sub> = −1A
- 2) Good h<sub>FE</sub> linearity.
- 3) Low V<sub>CE(sat)</sub>.
- 4) Complements the 2SD1898 / 2SD1733.

●Structure

Epitaxial planar type  
PNP silicon transistor

●Dimensions (Unit : mm)



\* Denotes h<sub>FE</sub>

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	−80	V
Collector-emitter voltage	V <sub>CEO</sub>	−80	V
Emitter-base voltage	V <sub>EBO</sub>	−5	V
Collector current	I <sub>c</sub>	−1	A (DC)
	I <sub>cP</sub>	−2 *1	A (Pulse)
Collector power dissipation	P <sub>c</sub>	0.5	W
		2 *2	
		10	
		1	W (T <sub>c</sub> =25°C)
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	−55 to +150	°C

\*1 2SB1260 : P<sub>w</sub>=20ms duty=1/2

\*2 2SB1260 : When mounted on a 40×40×0.7 mm ceramic board.

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CB0</sub>	−80	−	−	V	I <sub>c</sub> = −50μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	−80	−	−	V	I <sub>c</sub> = −1mA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	−5	−	−	V	I <sub>E</sub> = −50μA
Collector cutoff current	I <sub>CB0</sub>	−	−	−1	μA	V <sub>CB</sub> = −60V
Emitter cutoff current	I <sub>EBO</sub>	−	−	−1	μA	V <sub>EB</sub> = −4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	−	−	−0.4	V	I <sub>c</sub> /I <sub>B</sub> = −500mA/ −50mA
DC current transfer ratio	h <sub>FE</sub>	120	−	390	−	V <sub>CE</sub> = −3V, I <sub>c</sub> = −0.1A
Transition frequency	f <sub>T</sub>	−	100	−	MHz	V <sub>CE</sub> = −10V, I <sub>E</sub> = 50mA, f = 100MHz
Output capacitance	C <sub>ob</sub>	−	20	−	pF	V <sub>CB</sub> = −10V I <sub>E</sub> = 0A f = 1MHz
		−	25	−	pF	

●Packaging specifications and hFE

Type	hFE	Package	Taping	
		Code	TL	T100
		Basic ordering unit (pieces)	2500	1000
2SB1260	QR		-	○
2SB1181	QR		○	-

hFE values are classified as follows :

Item	Q	R
hFE	120 to 270	180 to 390

●Electrical characteristic curves

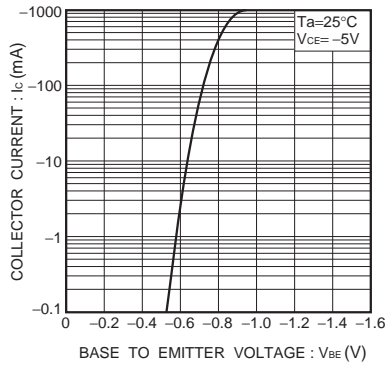


Fig.1 Grounded emitter propagation characteristics

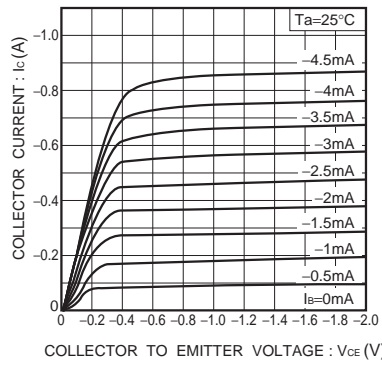


Fig.2 Grounded emitter output characteristics

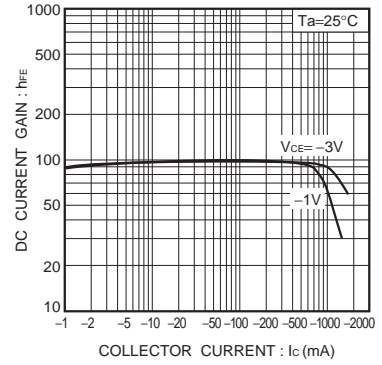


Fig.3 DC current gain vs. collector current

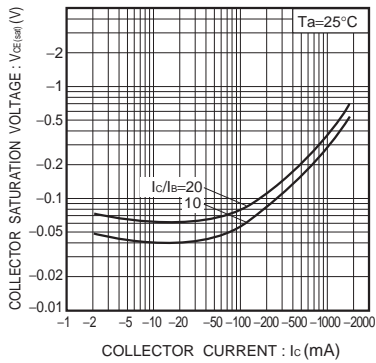


Fig.4 Collector-emitter saturation voltage vs. collector current

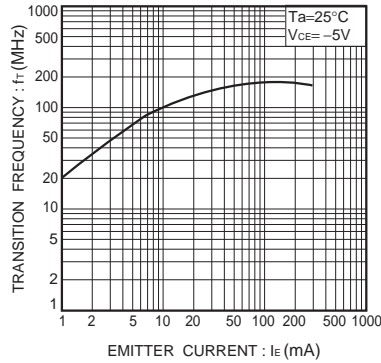


Fig.5 Gain bandwidth product vs. emitter current

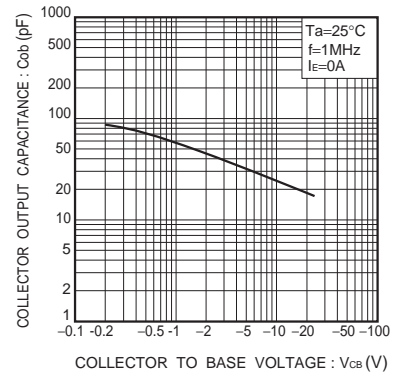


Fig.6 Collector output capacitance vs. collector-base voltage

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