

Power Transistor (– 80V, – 1A)

2SB1260 / 2SB1181 / 2SB1241

●Features

- 1) High breakdown voltage and high current.

$$V_{CE0} = -80V, I_C = -1A$$

- 2) Good h_{FE} linearity.

- 3) Low $V_{CE(sat)}$.

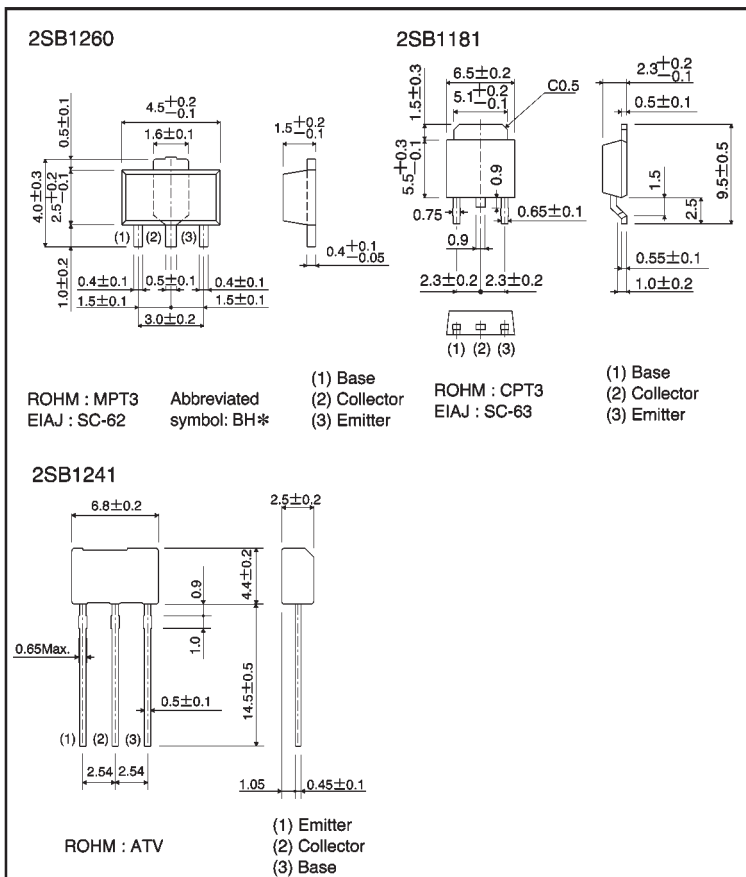
- 4) Complements the 2SD1898 / 2SD1863 / 2SD1733.

●Structure

Epitaxial planar type

PNP silicon transistor

●External dimensions (Units: mm)



* Denotes h_{FE}

●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V _{CBO}	−80	V
Collector-emitter voltage		V _{CEO}	−80	V
Emitter-base voltage		V _{EBO}	−5	V
Collector current		I _C	−1	A (DC)
		I _{CP}	−2	A (Pulse) *1
Collector power dissipation	2SB1260	P _C	0.5	W *2
	2SB1241, 2SB1181		2	
	2SB1181		1	
	2SB1181		10	W (T _C =25°C) *3
Junction temperature		T _J	150	°C
Storage temperature		T _{stg}	−55~+150	°C

*1 Single pulse, P_w=100ms

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

*3 Printed circuit board, 1.7mm thick, collector copper plating 100mm² or larger.

●Electrical characteristics (Ta = 25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage		BV _{CBO}	−80	—	—	V	I _C =−50 μA
Collector-emitter breakdown voltage		BV _{CEO}	−80	—	—	V	I _C =−1mA
Emitter-base breakdown voltage		BV _{EBO}	−5	—	—	V	I _E =−50 μA
Collector cutoff current		I _{CBO}	—	—	−1	μA	V _{CB} =−60V
Emitter cutoff current		I _{EBO}	—	—	−1	μA	V _{EB} =−4V
Collector-emitter saturation voltage		V _{CE(sat)}	—	—	−0.4	V	I _C /I _B =−500mA/−50mA
DC current transfer ratio	2SB1260, 2SB1181	h _{FE}	82	—	390	—	V _{CE} =−3V, I _C =−0.1A
	2SB1241		120	—	390	—	
Transition frequency	2SB1260, 2SB1241	f _T	—	100	—	MHz	V _{CE} =−5V, I _E =50mA, f=30MHz
	2SB1181		—	100	—	MHz	V _{CE} =−10V, I _E =50mA, f=30MHz
Output capacitance		C _{ob}	—	25	—	pF	V _{CB} =−10V, I _E =0A, f=1MHz

●Packaging specifications and h_{FE}

Type	h _{FE}	Package	Taping		
		Code	TL	TV2	T100
		Basic ordering unit (pieces)	2500	2500	1000
2SB1260	PQR		—	—	○
2SB1241	QR		—	○	—
2SB1181	PQR		○	—	—

h_{FE} values are classified as follows :

Item	P	Q	R
h _{FE}	82~180	120~270	180~390

●Electrical characteristic curves

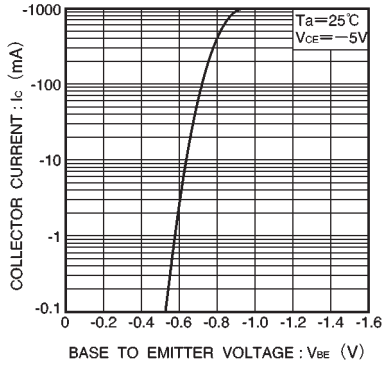


Fig.1 Grounded emitter propagation characteristics

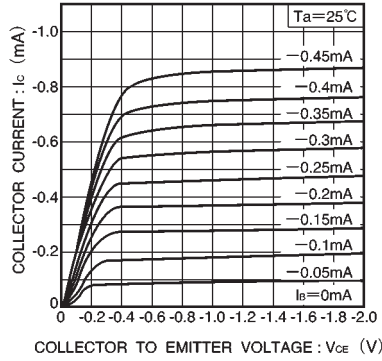


Fig.2 Grounded emitter output characteristics

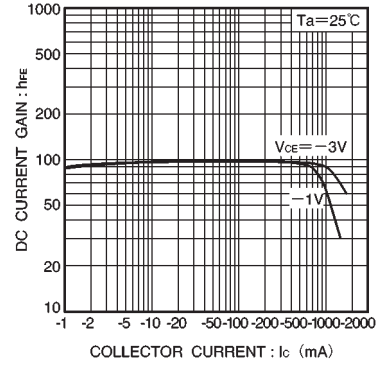


Fig.3 DC current gain vs. collector current

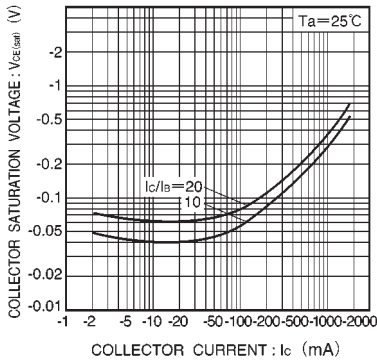


Fig.4 Collector-emitter saturation voltage vs. collector current

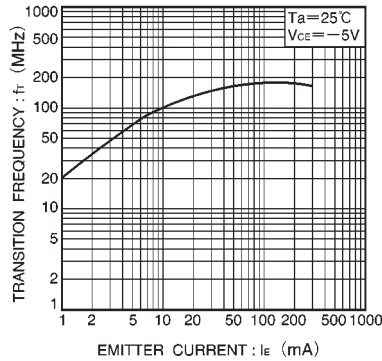


Fig.5 Gain bandwidth product vs. emitter current

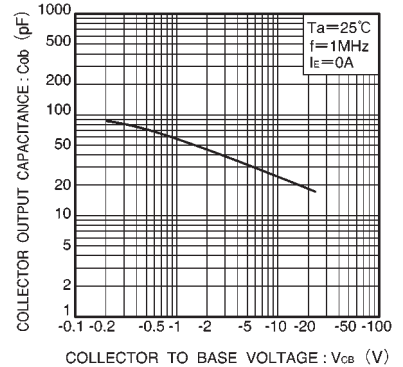


Fig.6 Collector output capacitance vs. collector-base voltage

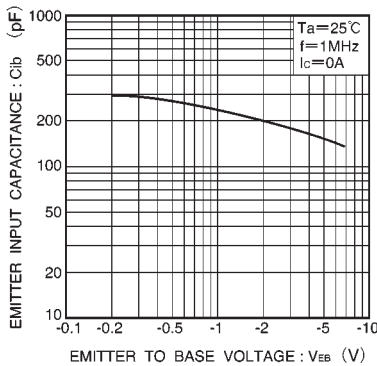


Fig.7 Emitter input capacitance vs. emitter-base voltage

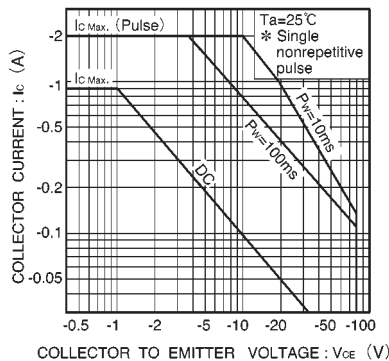


Fig.8 Safe operating area (2SB1260)

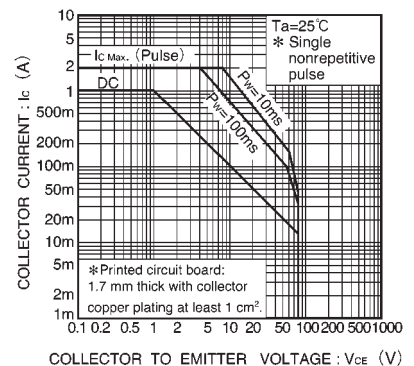


Fig.9 Safe operating area (2SB1241)

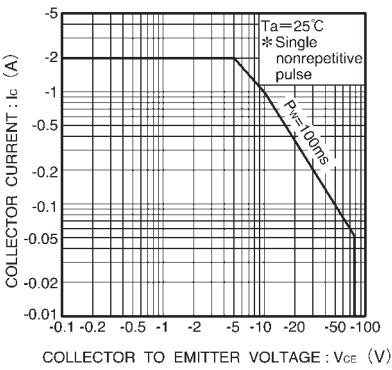


Fig.10 Safe operating area
(2SB1181)