

Power Transistor (- 80V, - 1A)

2SB1260 / 2SB1181 / 2SB1241

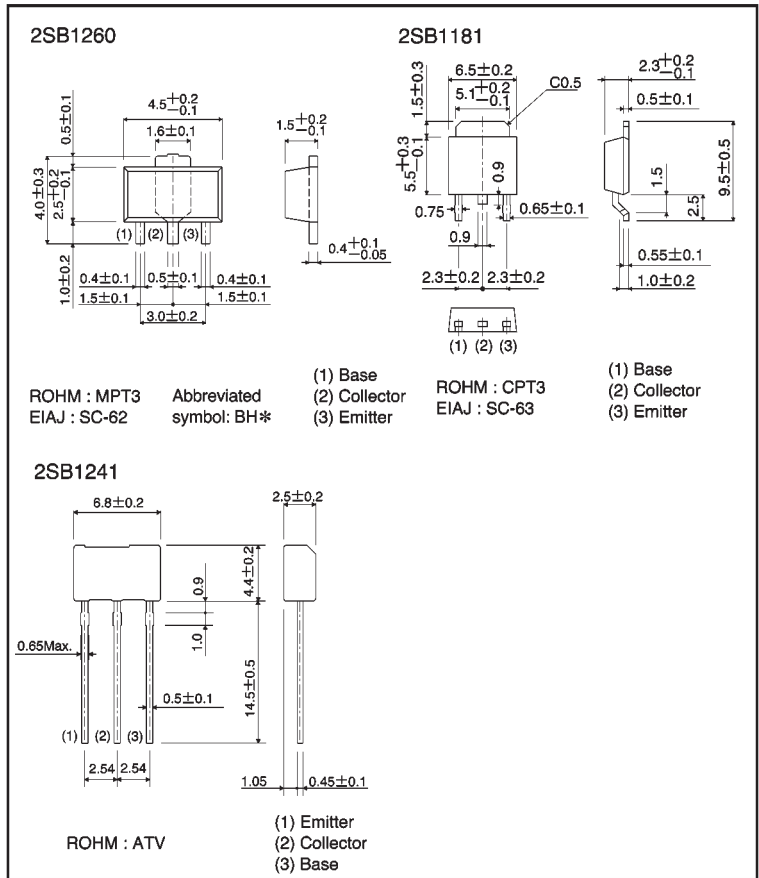
●Features

- 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 _{CB0}	-80	V
Collector-emitter voltage		V _{CE0}	-80	V
Emitter-base voltage		V _{EB0}	-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
			2	
	2SB1241, 2SB1181		1	*3
	2SB1181		10	W(T _c =25°C)
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 _{CB0}	-80	—	—	V	I _c = -50 μA
Collector-emitter breakdown voltage		BV _{CE0}	-80	—	—	V	I _c = -1mA
Emitter-base breakdown voltage		BV _{EB0}	-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

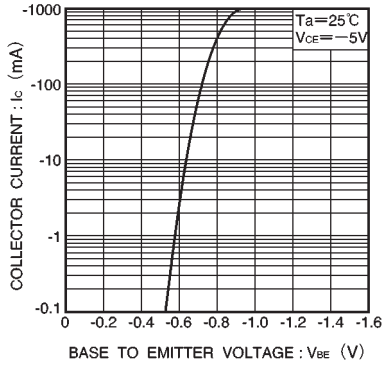


Fig.1 Grounded emitter propagation characteristics

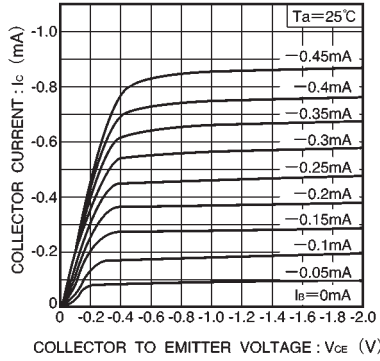


Fig.2 Grounded emitter output characteristics

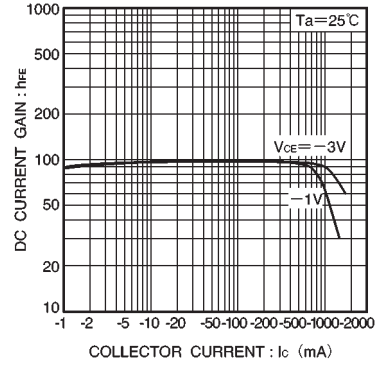


Fig.3 DC current gain vs. collector current

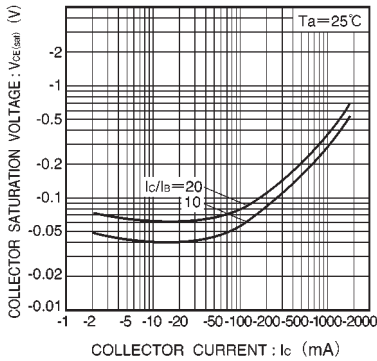


Fig.4 Collector-emitter saturation voltage vs. collector current

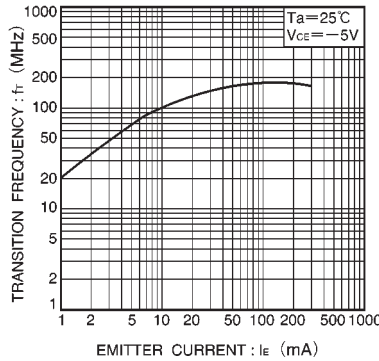


Fig.5 Gain bandwidth product vs. emitter current

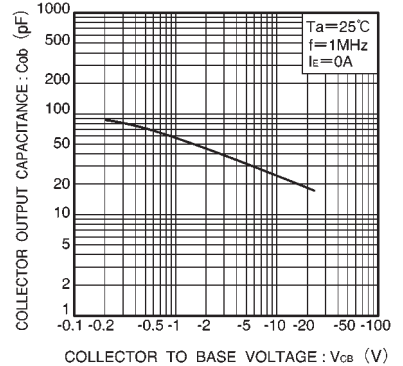


Fig.6 Collector output capacitance vs. collector-base voltage

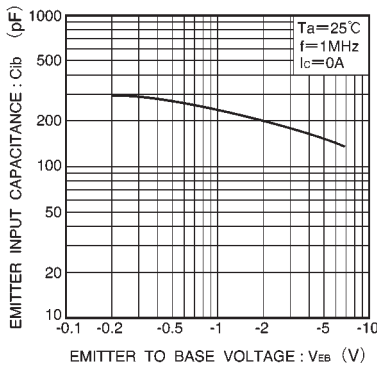


Fig.7 Emitter input capacitance vs. emitter-base voltage

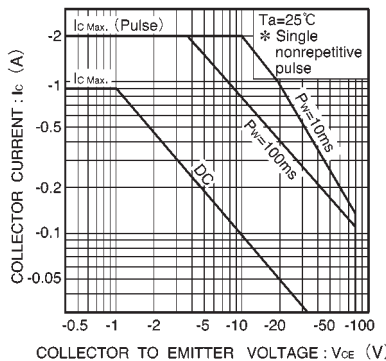


Fig.8 Safe operating area (2SB1260)

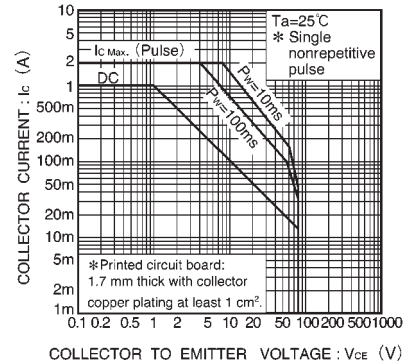


Fig.9 Safe operating area (2SB1241)

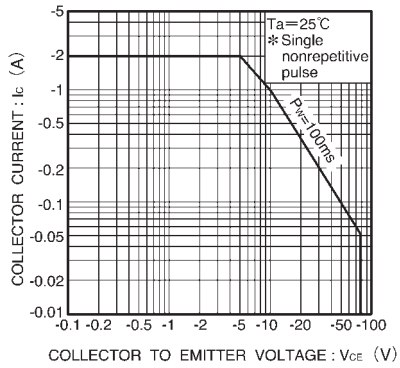


Fig.10 Safe operating area
(2SB1181)