Power Transistor (–80V, –1A)

2SB1260 / 2SB1181 / 2SB1241

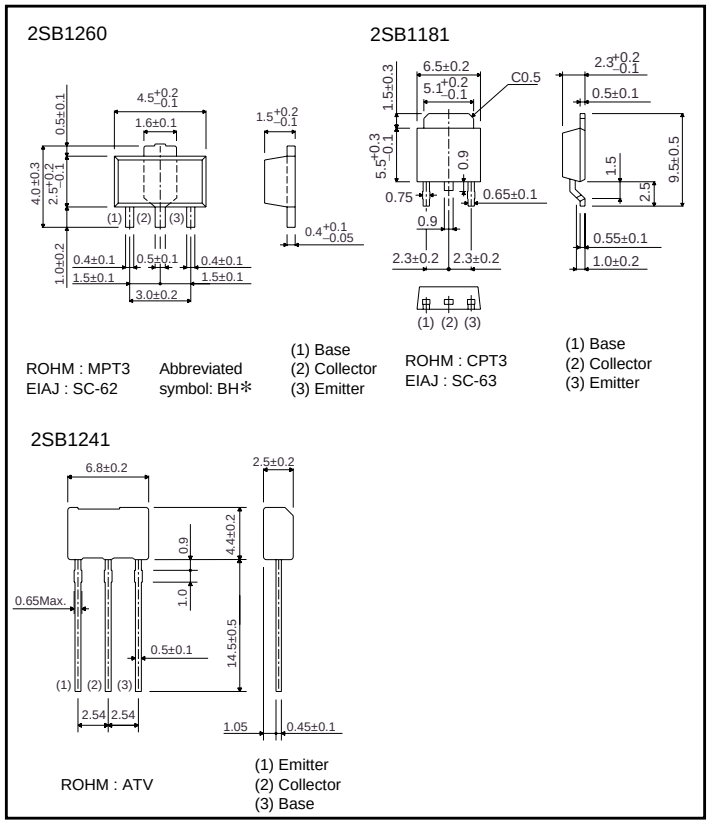
●**Features**

1) High breakdown voltage and high current.
   BV_{CEO}= –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
			2	*3
	2SB1241, 2SB1181		1	
	2SB1181		10	W(Tc=25˚C)
Junction temperature		Tj	150	˚C
Storage temperature		Tstg	-55~+150	˚C

*1 Single pulse, Pw=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=-50μA
Collector-emitter breakdown voltage		BV_{CEO}	-80	-	-	V	I_C=-1mA
Emitter-base breakdown voltage		BV_{EBO}	-5	-	-	V	I_E=-50μA
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		Cob	-	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

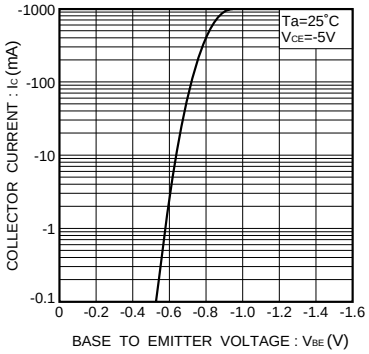


Fig.1 Grounded emitter propagation characteristics

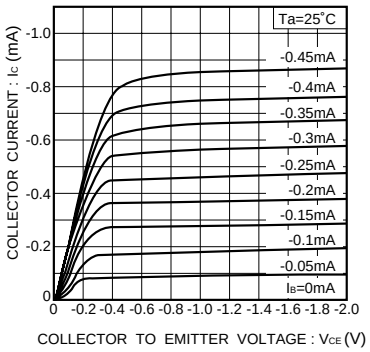


Fig.2 Grounded emitter output characteristics

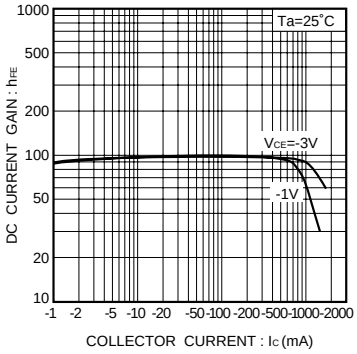


Fig.3 DC current gain vs. collector current

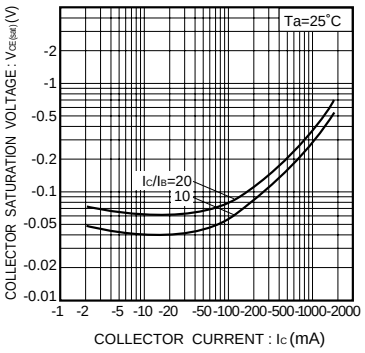


Fig.4 Collector-emitter saturation voltage vs. collector current

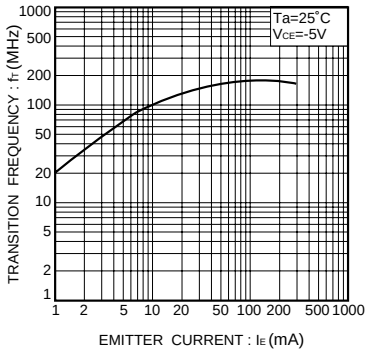


Fig.5 Gain bandwidth product vs. emitter current

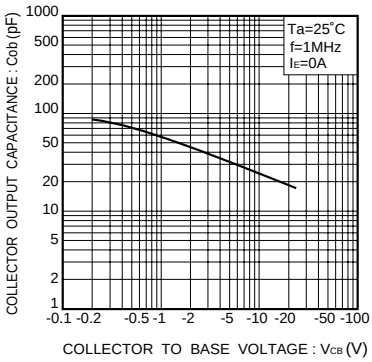


Fig.6 Collector output capacitance vs. collector-base voltage

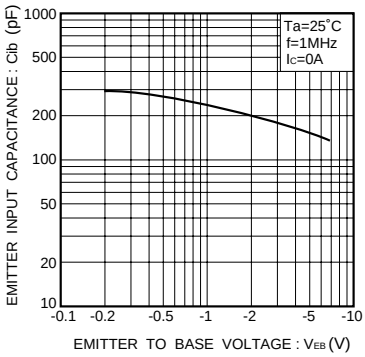


Fig. 7 Emitter input capacitance vs. emitter-base voltage

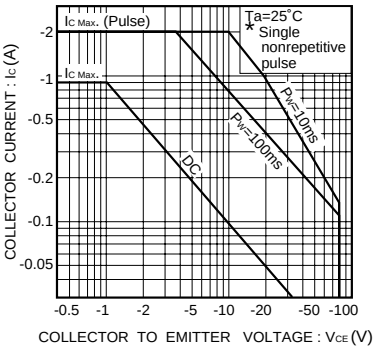


Fig. 8 Safe operating area (2SB1260)

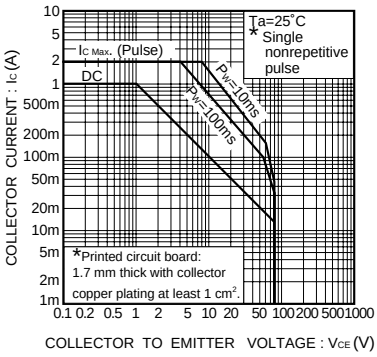


Fig.9 Safe operating area (2SB1241)

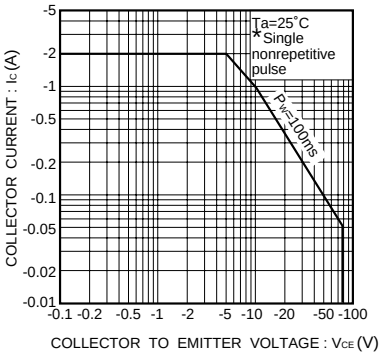


Fig.10 Safe operating area (2SB1181)