

Transistors

Power Transistor (−80V, −1A)

2SB1260 / 2SB1181 / 2SB1241

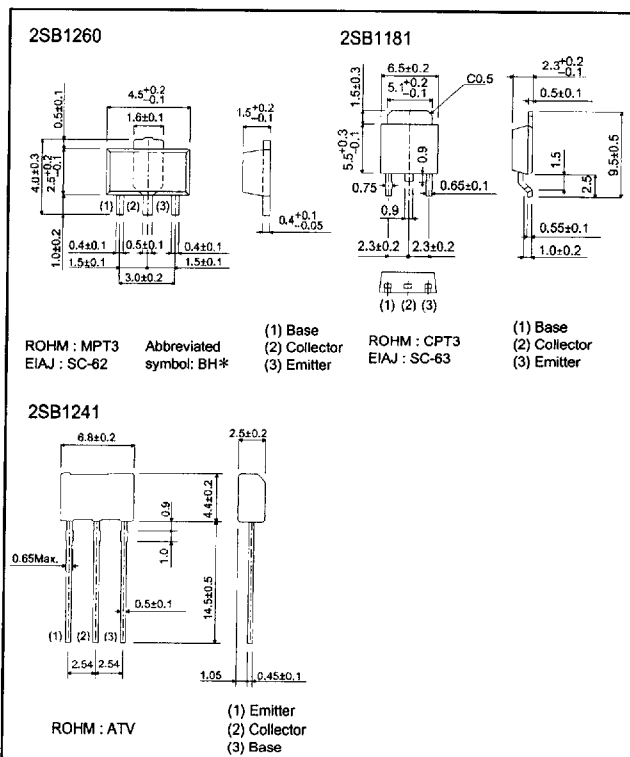
●Features

- 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 (T_a = 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	P _C	0.5	W
		2	
		1	
		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.

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Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-80	-	-	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-80	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -50\mu A$
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	$I_C/I_E = -500mA/-50mA$
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	-	$V_{CE} = -5V, I_E = 50mA, f = 30MHz$
	2SB1181		-	100	-	$V_{CE} = -10V, I_E = 50mA, f = 30MHz$
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

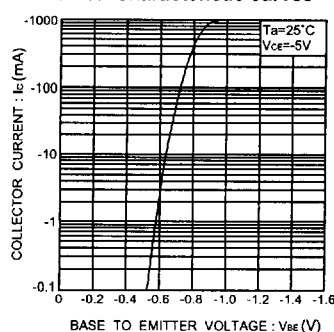


Fig.1 Grounded emitter propagation characteristics

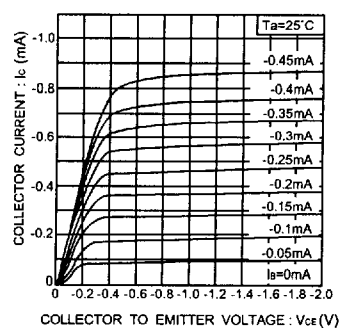


Fig.2 Grounded emitter output characteristics

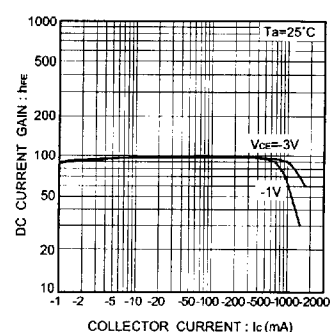


Fig.3 DC current gain vs. collector current

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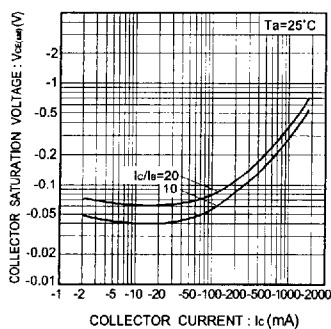


Fig. 4 Collector-emitter saturation voltage vs. collector current

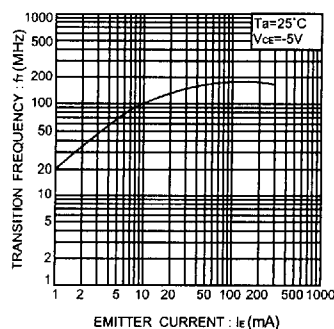


Fig. 5 Gain bandwidth product vs. emitter current

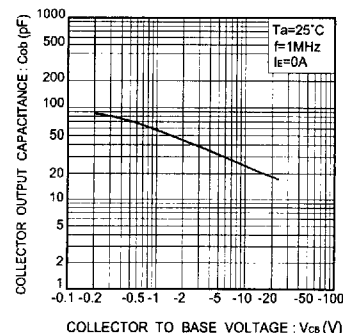


Fig. 6 Collector output capacitance vs. collector-base voltage

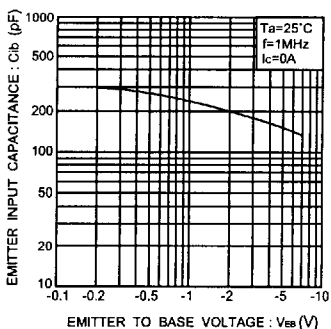


Fig. 7 Emitter input capacitance vs. emitter-base voltage

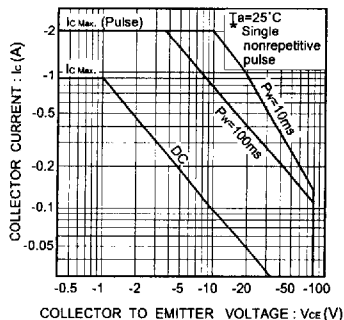


Fig. 8 Safe operating area (2SB1260)

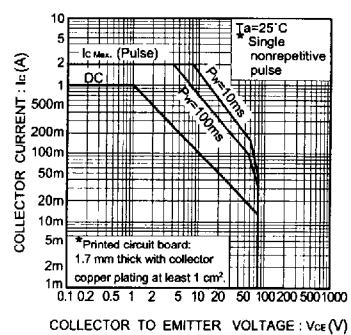


Fig. 9 Safe operating area (2SB1241)

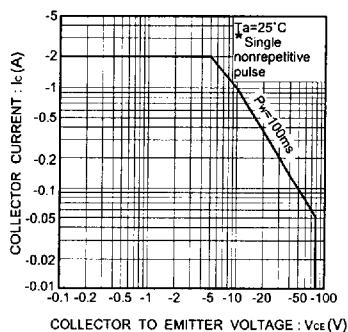


Fig. 10 Safe operating area (2SB1181)