

Power Transistor (−80V, −1A)

2SB1260 / 2SB1181 / 2SB1241

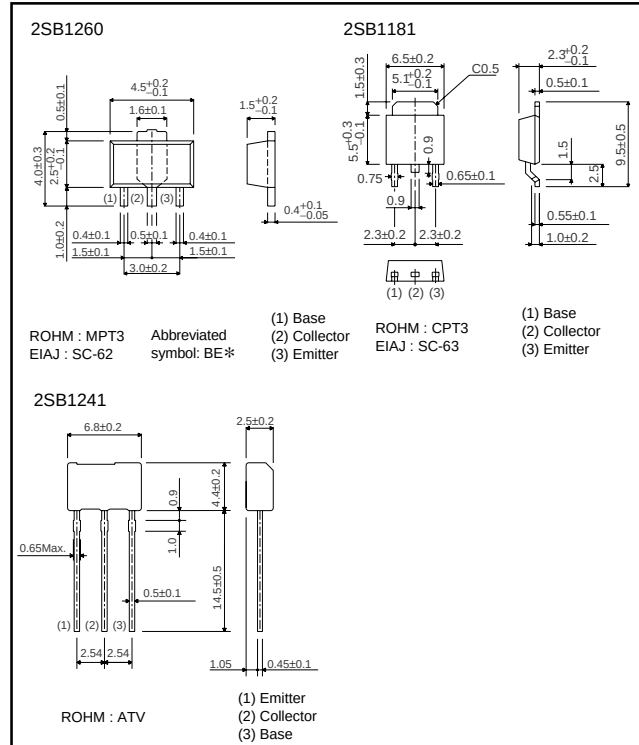
●Features

- 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 (Unit : mm)



* Denotes h_{FE}

●Absolute maximum ratings ($T_a = 25^\circ C$)

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 *1	A (Pulse)
Collector power dissipation	2SB1260	P_C	0.5	W
	2SB1241, 2SB1181		2 *2	
			1 *3	
	2SB1181		10	W ($T_c = 25^\circ C$)
Junction temperature		T_j	150	$^\circ C$
Storage temperature		T_{stg}	−55 to 150	$^\circ C$

*1 2SB1260 : $P_w = 20ms$ duty=1/2
2SB1241 : Single pulse, $P_w = 100ms$

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

*3 2SB1241 : Printed circuit board, 1.7mm thick, collector copper plating 100mm² or larger.

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●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	$I_C/I_B = -500mA/-50mA$
DC current transfer ratio	2SB1260, 2SB1181	h_{FE}	82	-	390	-	$V_{CE} = -3V, I_C = -0.1A$
	2SB1241		120	-	390	-	
Transition frequency		f_T	-	100	-	MHz	$V_{CE} = -10V, I_E = 50mA, f = 100MHz$
Output capacitance	2SB1260	C_{ob}	-	20	-	pF	$V_{CB} = -10V$ $I_E = 0A$ $f = 1MHz$
	2SB1181, 2SB1241		-	25	-	pF	

●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 to 180	120 to 270	180 to 390

●Electrical characteristic curves

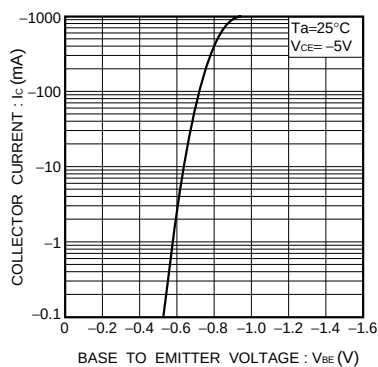


Fig.1 Grounded emitter propagation characteristics

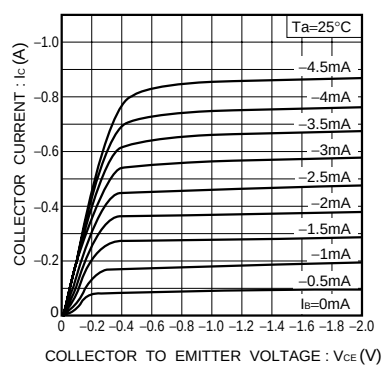


Fig.2 Grounded emitter output characteristics

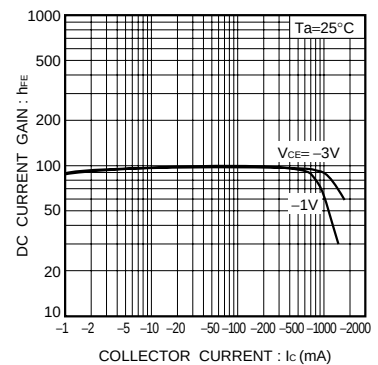


Fig.3 DC current gain vs. collector current

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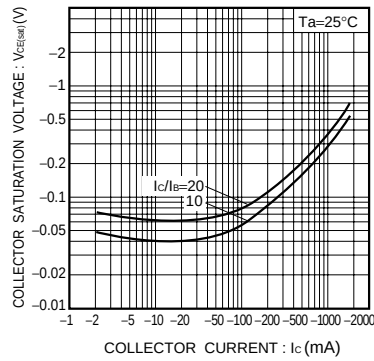


Fig.4 Collector-emitter saturation voltage vs. collector current

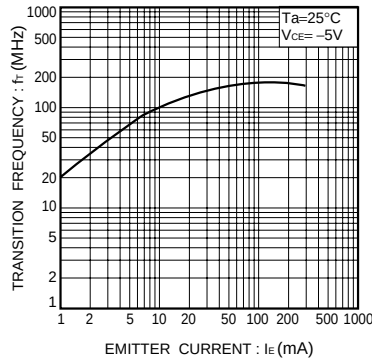


Fig.5 Gain bandwidth product vs. emitter current

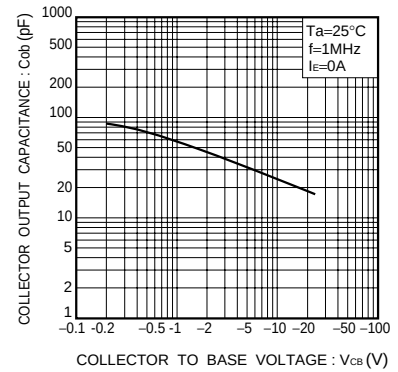


Fig.6 Collector output capacitance vs. collector-base voltage

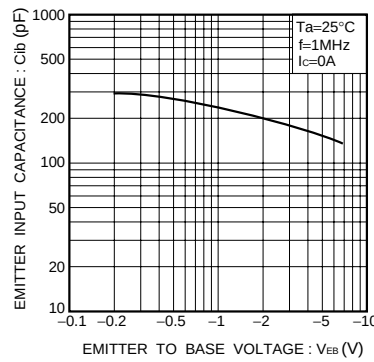


Fig.7 Emitter input capacitance vs. emitter-base voltage

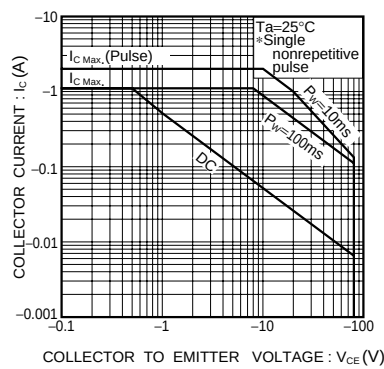


Fig.8 Safe operating area (2SB1260)

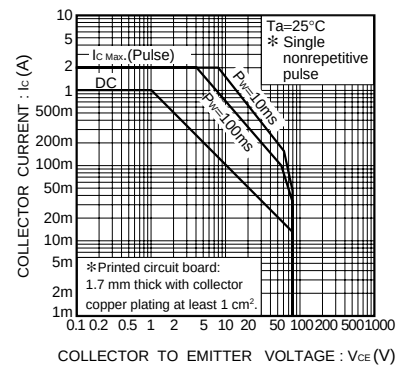


Fig.9 Safe operating area (2SB1241)

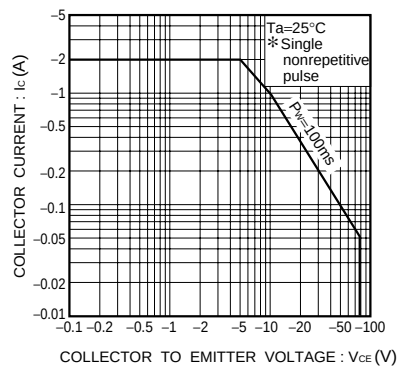


Fig.10 Safe operating area (2SB1181)

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