

# Medium power transistor (-32V, -2A)

2SB1188 / 2SB1182 / 2SB1240

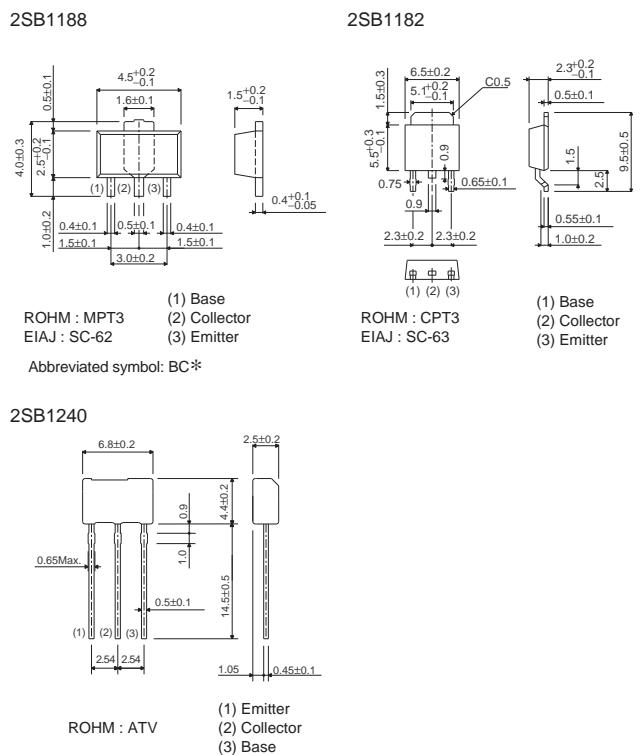
## ●Features

- 1) Low  $V_{CE(sat)}$ .  
 $V_{CE(sat)} = -0.5V$  (Typ.)  
 $(I_C/I_B = -2A / -0.2A)$
- 2) Complements the 2SD1766 / 2SD1758 / 2SD1862.

## ●Structure

Epitaxial planar type  
PNP silicon transistor

## ●Dimensions (Unit : mm)



\* Denotes  $h_{FE}$

## ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	-40	V
Collector-emitter voltage	$V_{CEO}$	-32	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-2	A(DC)
		-3	A (Pulse)*1
Collector power dissipation	$P_C$	0.5	W
		2	W *2
		10	W (Tc=25°C)
		1	W *3
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{STG}$	-55 to 150	°C

\*1 Single pulse,  $P_w=100ms$

\*2 When mounted on a 40x40x0.7 mm ceramic board.

\*3 Printed circuit board, 1.7mm thick, collector copper plating 100mm<sup>2</sup> or larger.

## ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CBO</sub>	-40	—	—	V	I <sub>c</sub> =-50μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	-32	—	—	V	I <sub>c</sub> =-1mA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	-5	—	—	V	I <sub>e</sub> =-50μA
Collector cutoff current	I <sub>CBO</sub>	—	—	-1	μA	V <sub>CB</sub> =-20V
Emitter cutoff current	I <sub>EBO</sub>	—	—	-1	μA	V <sub>EB</sub> =-4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	-0.5	-0.8	V	I <sub>c</sub> /I <sub>b</sub> =-2A/-0.2A
DC current transfer ratio	h <sub>FE</sub>	120	—	390	—	V <sub>CE</sub> =-3V, I <sub>c</sub> =-0.5A
Transition frequency	f <sub>T</sub>	—	100	—	MHz	V <sub>CE</sub> =-5V, I <sub>e</sub> =0.5A, f=100MHz
Output capacitance	C <sub>OB</sub>	—	50	—	pF	V <sub>CB</sub> =-10V, I <sub>e</sub> =0A, f=1MHz

\* Measured using pulse current.

●Packaging specifications and h<sub>FE</sub>

Type	h <sub>FE</sub>	Package		Taping		
		Code		T100	TL	TV2
		Basic ordering unit (pieces)		1000	2500	2500
2SB1188	QR				○	—
2SB1182	QR				—	○
2SB1240	QR				—	○

h<sub>FE</sub> values are classified as follows :

Item	Q	R
h <sub>FE</sub>	120 to 270	180 to 390

## ●Electrical characteristic curves

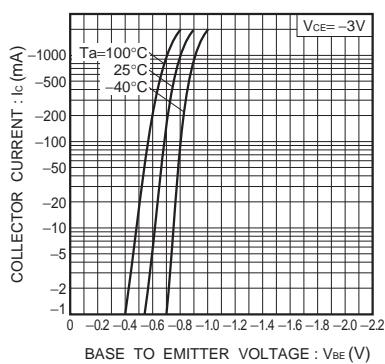


Fig.1 Grounded emitter propagation characteristics

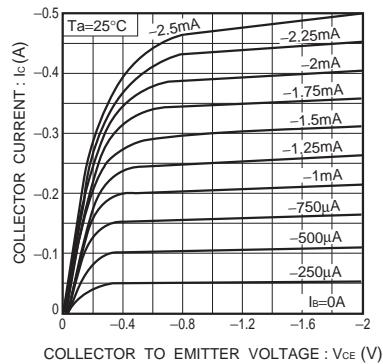


Fig.2 Grounded emitter output characteristics

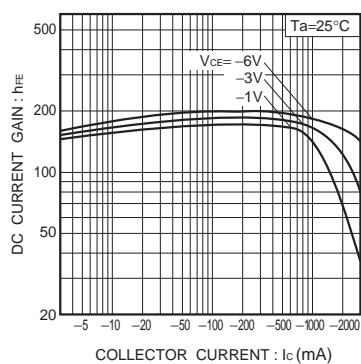
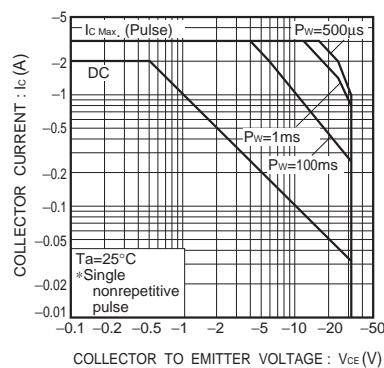
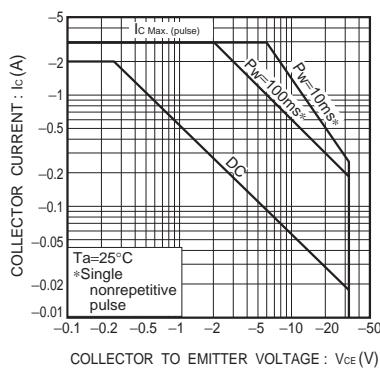
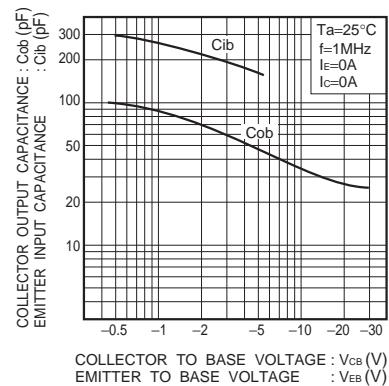
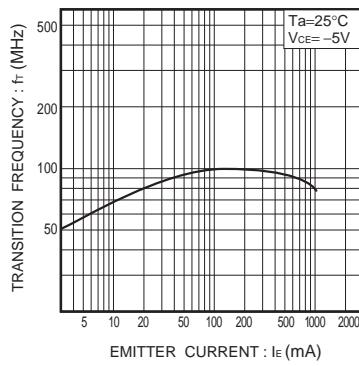
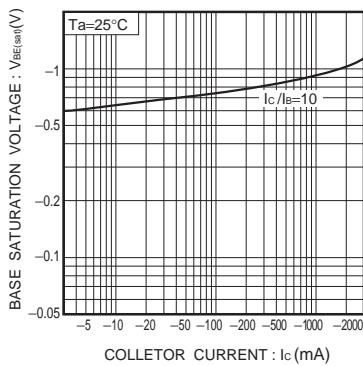
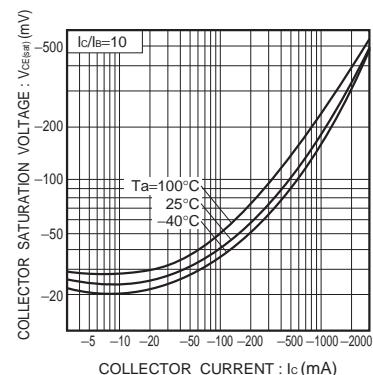
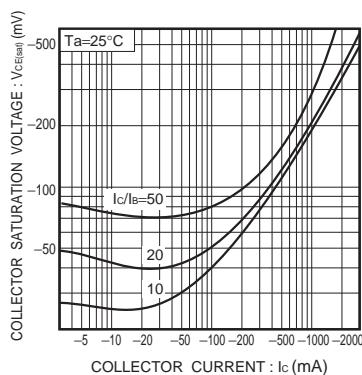
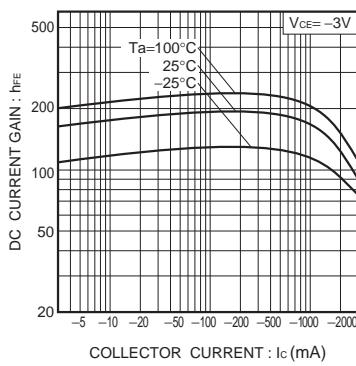


Fig.3 DC current gain vs. collector current (Ic)



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