

# Medium power transistor (−80V, −0.7A)

## 2SB1189 / 2SB1238

### ●Features

- 1) High breakdown voltage,  $V_{CE0}=-80V$ , and high current,  $I_C=-0.7A$ .
- 2) Complements the 2SD1767 / 2SD1859.

### ●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	$I_C$	-0.7	A
Collector power dissipation	Pc	0.5	W
		2	
		1	
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55~+150	°C

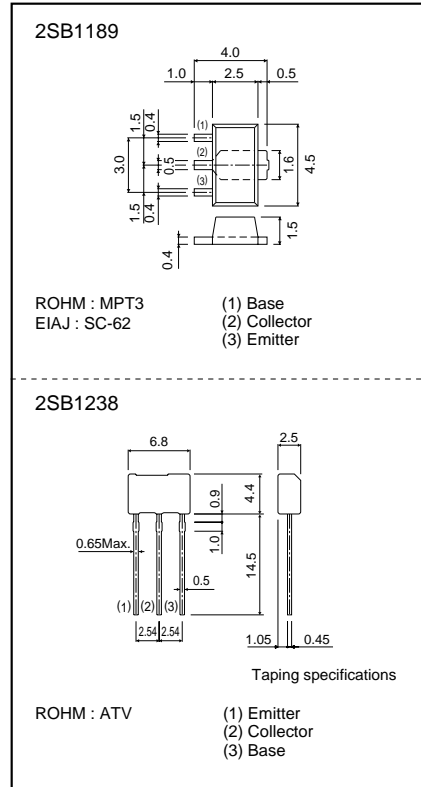
\*1 When mounted on a 40×40×0.7 mm ceramic board.  
\*2 Printed circuit board 1.7 mm thick, collector plating 1cm<sup>2</sup> or larger.

### ●Packaging specifications and hFE

Type	2SB1189	2SB1238
Package	MPT3	ATV
hFE	PQR	PQR
Marking	BD*	-
Code	T100	TV2
Basic ordering unit (pieces)	1000	2500

\*Denotes hFE

### ●External dimensions (Units : mm)



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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CB0}$	-80	-	-	V	$I_C=-50\mu A$
Collector-emitter breakdown voltage	$BV_{CE0}$	-80	-	-	V	$I_C=-2mA$
Emitter-base breakdown voltage	$BV_{EB0}$	-5	-	-	V	$I_E=-50\mu A$
Collector cutoff current	$I_{CBO}$	-	-	-0.5	$\mu A$	$V_{CB}=-50V$
Emitter cutoff current	$I_{EBO}$	-	-	-0.5	$\mu A$	$V_{EB}=-4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.2	-0.4	V	$I_C/I_E=-500mA/-50mA$
DC current transfer ratio	hFE	82	-	390	-	$V_{CE}/I_C=-3V/-0.1A$
Transition frequency	f <sub>r</sub>	-	100	-	MHz	$V_{CE}=-10V, I_E=50mA, f=100MHz$
Output capacitance	C <sub>ob</sub>	-	14	20	pF	$V_{CB}=-10V, I_E=0A, f=1MHz$