

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	2SB1189 2SB1238	P_C	0.5	W	*1
			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.

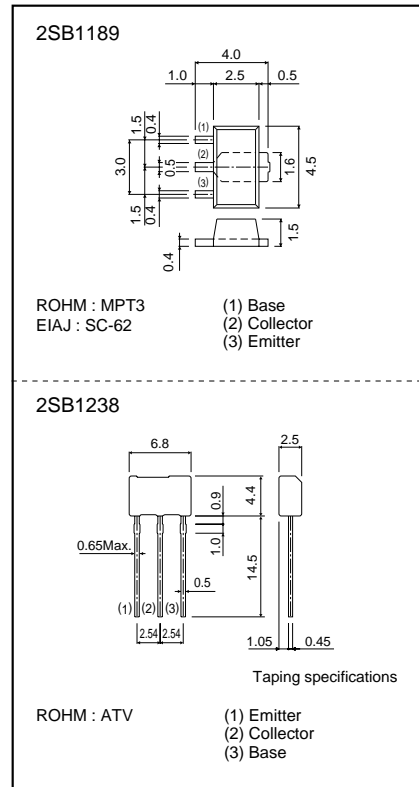
*2 Printed circuit board 1.7 mm thick, collector plating 1cm² or larger.

●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	μA	$V_{CB}=-50V$
Emitter cutoff current	I_{EBO}	—	—	−0.5	μA	$V_{EB}=-4V$
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 _r	—	100	—	MHz	$V_{CE}=-10V, I_E=50mA, f=100MHz$
Output capacitance	C _{ob}	—	14	20	pF	$V_{CB}=-10V, I_E=0A, f=1MHz$