

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
		1		*2
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	-55~+150	°C	

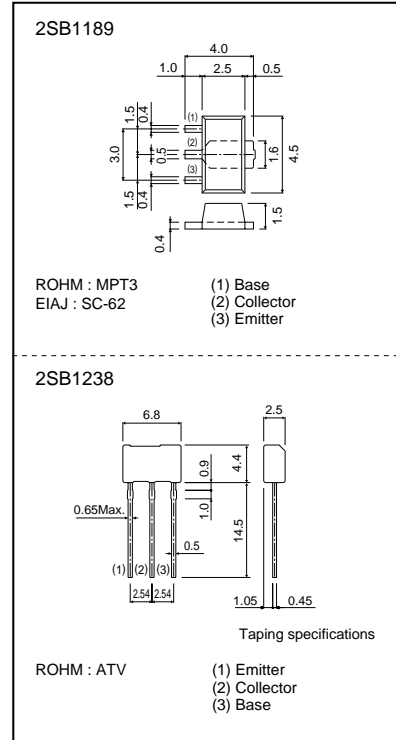
*1 When mounted on a 40×40×0.7 mm ceramic board.
 *2 Printed circuit board 1.7 mm thick, collector plating 1cm² or larger.

●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	V_{CB0}	-80	-	-	V	$I_C=-50\mu A$
Collector-emitter breakdown voltage	V_{CE0}	-80	-	-	V	$I_C=-2mA$
Emitter-base breakdown voltage	V_{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 _T	-	100	-	MHz	$V_{CE}=-10V, I_E=50mA, f=100MHz$
Output capacitance	Cob	-	14	20	pF	$V_{CE}=-10V, I_E=0A, f=1MHz$