

Power Transistor (−120V, −1.5A)

2SB1236 / 2SB1186

●Features

- 1) High breakdown voltage. ($V_{CE0} = -120V$)
- 2) Low collector output capacitance. (Typ. 30pF at $V_{CB} = -10V$)
- 3) High transition frequency. ($f_T = 50MHz$)
- 4) Complements the 2SD1857 / 2SD1763.

●Packaging specifications and hFE

Type	2SB1236	2SB1186
Package	ATV	TO-220FP
hFE	QR	EF
Code	TV2	—
Basic ordering unit (pieces)	2500	500

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	-120	V
Collector-emitter voltage	V_{CEO}	-120	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	Ic	-1.5	A (DC)
		-3	A (Pulse) ※1
Collector power dissipation	Pc	1	W ※2
		2	
		20	W (Tc=25°C)
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55~+150	°C

※1 Single pulse Pw=100ms

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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV_{CBO}	-120	—	—	V	Ic = -50 μ A	
Collector-emitter breakdown voltage	BV_{CEO}	-120	—	—	V	Ic = -1mA	
Emitter-base breakdown voltage	BV_{EBO}	-5	—	—	V	Ie = -50 μ A	
Collector cutoff current	Icbo	—	—	-1	μ A	$V_{CB} = -100V$	
Emitter cutoff current	Iebo	—	—	-1	μ A	$V_{EB} = -4V$	
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	-2	V	Ic/Ie = -1A/-0.1A ※	
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	-1.5	V	Ic/Ie = -1A/-0.1A ※	
DC current transfer ratio	2SB1236	hFE	120	—	390	—	$V_{CE} = -5V, I_c = -1A$
	2SB1186		100	—	320		
Transition frequency	fT	—	50	—	MHz	$V_{CE} = -5V, I_e = 0.1A, f = 30MHz$	
Output capacitance	Cob	—	30	—	pF	$V_{CB} = -10V, I_e = 0A, f = 1MHz$	

* Measured using pulse current.

(94L-268-A56)

Power Transistor (120V, 1.5A)

2SC4132 / 2SD1857 / 2SD2343 / 2SD1763

●Features

- 1) High breakdown voltage. ($V_{CE0} = 120V$)
- 2) Low collector output capacitance. (Typ. 20pF at $V_{CB} = 10V$)
- 3) High transition frequency. ($f_T = 80MHz$)
- 4) Complements the 2SB1236 / 2SB1186.

●Packaging specifications and hFE

Type	2SC4132	2SD1857	2SD2343	2SD1763
Package	MPT3	ATV	TO-126F	TO-220FP
hFE	PQR	PQR	PQ	EF
Marking	CB*	—	—	—
Code	T100	TV2	—	—
Basic ordering unit (pieces)	1000	2500	1000	500

* Denotes hFE

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	120	V
Collector-emitter voltage	V_{CEO}	120	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	Ic	2	A
		3	A ※1
Collector power dissipation	Pc	0.5	W ※2
		2	
		1	
		1.5	
		5	W (Tc=25°C)
20			
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55~+150	°C

※1 Single pulse Pw=10ms

※2 When mounted on a 40×40×0.7mm ceramic board.

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV_{CBO}	120	—	—	V	Ic = 50 μ A	
Collector-emitter breakdown voltage	BV_{CEO}	120	—	—	V	Ic = 1mA	
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	Ie = 50 μ A	
Collector cutoff current	Icbo	—	—	1	μ A	$V_{CB} = 100V$	
Emitter cutoff current	Iebo	—	—	1	μ A	$V_{EB} = 4V$	
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.4	V	Ic/Ie = 1A/0.1A ※	
DC current transfer ratio	2SC4132, 2SD1857	hFE	82	—	390	—	$V_{CE}/I_c = 5V/0.1A$
	2SD2343		82	—	270		
	2SD1763		100	—	320		
Transition frequency	fT	—	80	—	MHz	$V_{CE} = 5V, I_e = -0.1A, f = 30MHz$ ※	
Output capacitance	Cob	—	20	—	pF	$V_{CB} = 10V, I_e = 0A, f = 1MHz$	

* Measured using pulse current.