

Power Transistor (−50V, −2A)

2SA1797 / 2SB1443

●Features

- 1) Low saturation voltage. $V_{CE(sat)} = -0.35V$ (Max.) at $I_C / I_B = -1A / -50mA$.
- 2) Excellent DC current gain characteristics.
- 4) Complements the 2SA1797 and 2SC4672.

●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	−50	V
Collector-emitter voltage		V_{CEO}	−50	V
Emitter-base voltage		V_{EBO}	−6	V
Collector current		I_C	−3	A (DC)
			−5	A (Pulse) *1
Collector power dissipation	2SA1797	P_C	0.5	W *2
			2	
	2SB1443		1	*3
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55~+150	°C

*1 Single pulse, $P_w=10ms$

*2 When mounted on a $40 \times 40 \times 0.7mm$ ceramic board.

*3 Printed circuit board 1.7mm thick, collector plating $1cm^2$ or larger.

●Packaging specifications and h_{FE}

Type	2SA1797	2SB1443
Package	MPT3	ATV
h_{FE}	PQ	Q
Marking	AG *	−
Code	T100	TV2
Basic ordering unit (pieces)	1000	2500

*Denotes h_{FE}

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−50	−	−	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	−50	−	−	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	−6	−	−	V	$I_E = -50\mu A$
Collector cutoff current	I_{CBO}	−	−	−0.1	μA	$V_{CB} = -50V$
Emitter cutoff current	I_{EBO}	−	−	−0.1	μA	$V_{EB} = -5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	−	−0.15	−0.35	V	$I_C/I_B = -1A/-50mA$ *
DC current transfer ratio	2SA1797	82	−	270	−	$V_{CE}/I_C = -2V/-0.5A$
	2SB1443	120	−	270	−	
Transition frequency	f_T	−	200	−	MHz	$V_{CE} = -2V, I_E = 0.5A, f = 100MHz$ *
Output capacitance	C_{ob}	−	36	−	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$

* Measured using pulse current