Power Transistor (−50V, −3A)

2SA1797

●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)
			−6	A (Pulse) *1
Collector power dissipation	2SA1797	P_C	0.5	W
			2	W *2
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.

●Packaging specifications and h_{FE}

Type	2SA1797
Package	MPT3
h_{FE}	PQ
Marking	AG *
Code	T100
Basic ordering unit (pieces)	1000

*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=−50μA
Collector-emitter breakdown voltage	BV_{CEO}	−50	−	−	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−6	−	−	V	I_E=−50μA
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	h_{FE}	82	−	270	−	V_{CE}/I_C=−2V/−0.5A
Transition frequency	f_T	−	200	−	MHz	V_{CE}=−2V, I_E=0.5A, f=100MHz *
Output capacitance	Cob	−	36	−	pF	V_{CB}=−10V, I_E=0A, f=1MHz

* Measured using pulse current

● **Electrical characteristic curves**

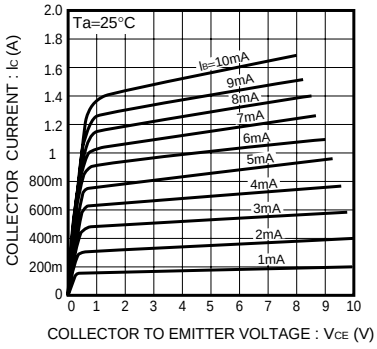

Fig.1 Grounded emitter output characteristics

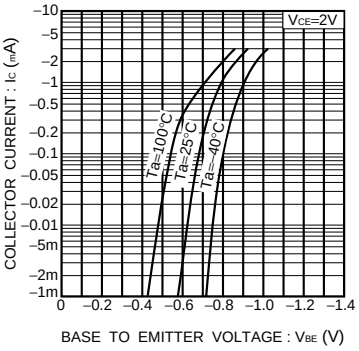

Fig.2 Grounded emitter propagation characteristics

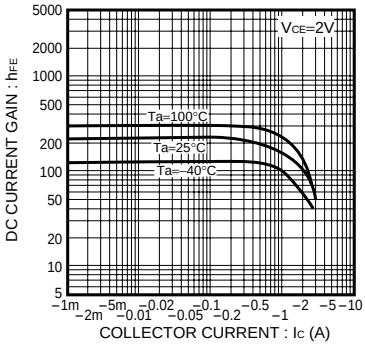

Fig.3 DC current gain vs. collector current

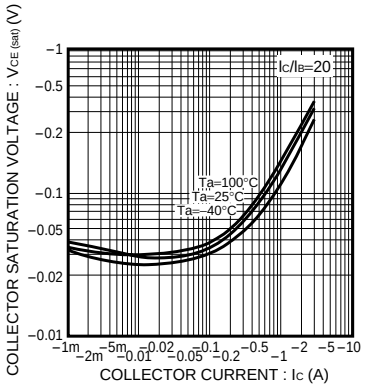

Fig.4 Collector-emitter saturation voltage vs. collector current

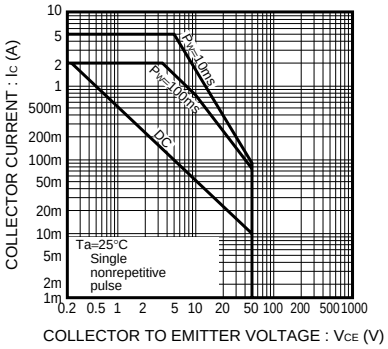

Fig.5 Safe operating area

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