

Power Transistor (−50V, −3A)

2SA1797

●Features

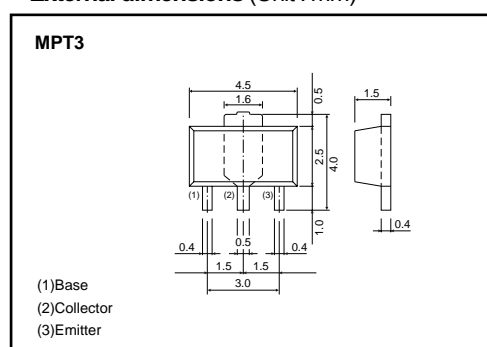
- 1) Low saturation voltage.
 $V_{CE(sat)} = -0.35V$ (Max.) at $I_C / I_B = -1A / -50mA$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SC4672.

●Packaging specifications

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

*Denotes h_{FE}

●External dimensions (Unit : mm)



●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	P_C	0.5	W *2
		2	
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	−55~+150	°C

*1 Single pulse, $P_w=10ms$

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

●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	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	C_{ob}	−	36	−	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$

* Measured using pulse current

Transistors

● Electrical characteristic curves

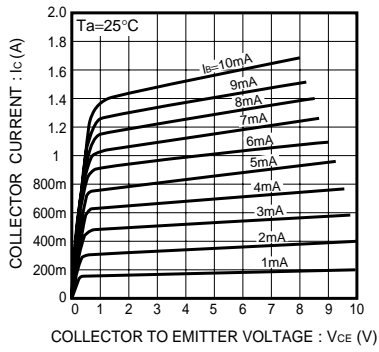


Fig.1 Grounded emitter output characteristics

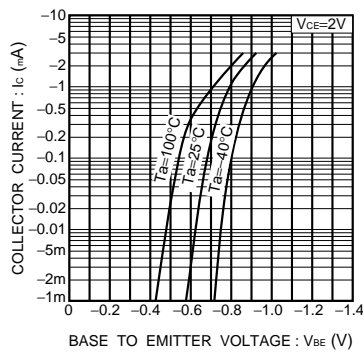


Fig.2 Grounded emitter propagation characteristics

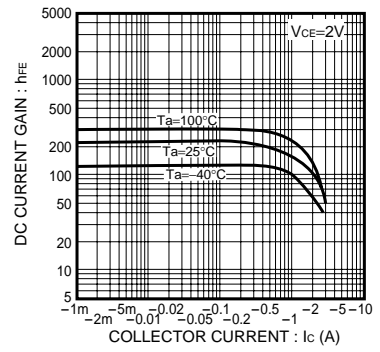


Fig.3 DC current gain vs. collector current

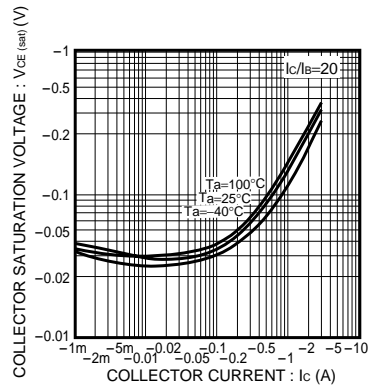


Fig.4 Collector-emitter saturation voltage vs. collector current

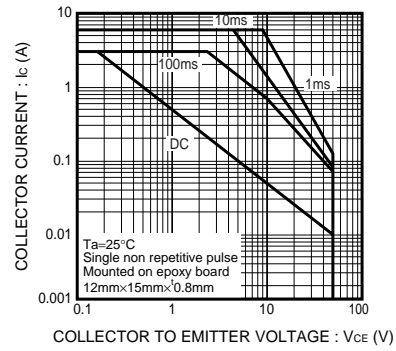


Fig.5 Safe operating area

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