

Power Transistor (–50V, –3A)

2SA1797

●Features

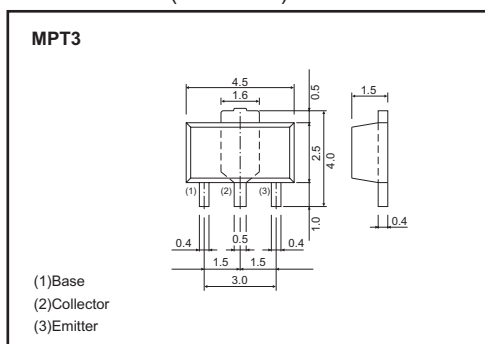
- 1) Low saturation voltage.
 $V_{CE(sat)} = -0.35V$ (Max.) at $I_C / I_B = -1A / 50mA$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SC4672.

●Packaging specifications

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

*Denotes h_{FE}

●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 *1	–3	A (DC)
		–6	A (Pulse)
Collector power dissipation	P_C *2	0.5	W
		2	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +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_{FE1} *	82	–	270	–	$V_{CE}/I_C=-2V/-0.5A$
	h_{FE2} *	45	–	–	–	$V_{CE}/I_C=-2V/-1.5A$
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

● Electrical characteristic curves

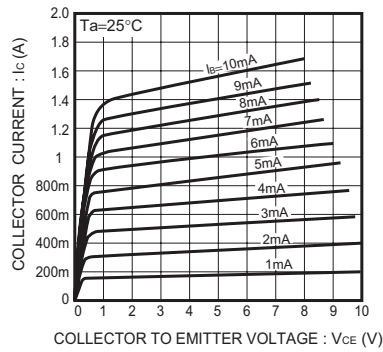


Fig.1 Grounded Emitter Output Characteristics

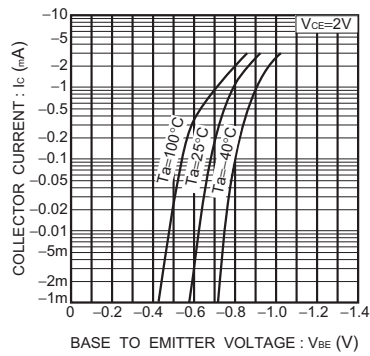


Fig.2 Grounded Emitter Propagation Characteristics

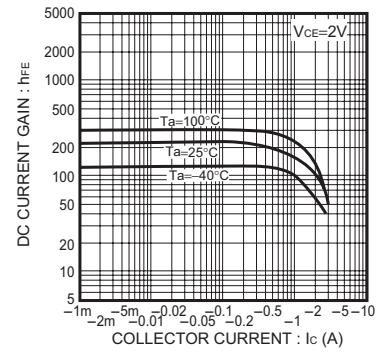


Fig.3 DC Current Gain vs. Collector Current

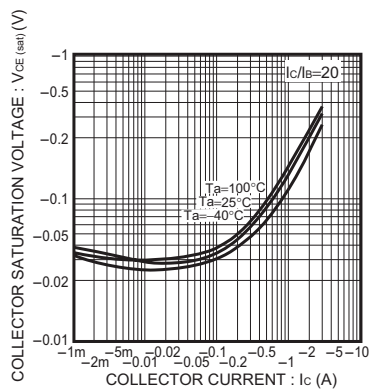


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current

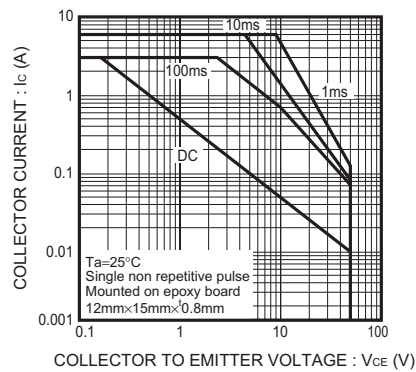


Fig.5 Safe Operating Area