

Power Transistor (-50V, -3A)

2SA1797

●Features

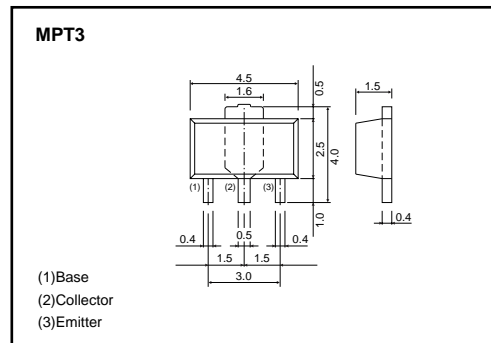
- 1) Low saturation voltage.
 $V_{CE(sat)} = -0.35V$ (Max.) at $I_C / I_B = -1A / 50mA$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SC4672.

●Packaging specifications

Type	2SA1797
Package	MPT3
hFE	PQ
Marking *	AG
Code	T100
Basic ordering unit (pieces)	1000

*Denotes hFE

●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	-50	V
Collector-emitter voltage	V_{CE0}	-50	V
Emitter-base voltage	V_{EB0}	-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 $40 \times 40 \times 0.7mm$ ceramic board.

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CB0}	-50	-	-	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CE0}	-50	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EB0}	-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

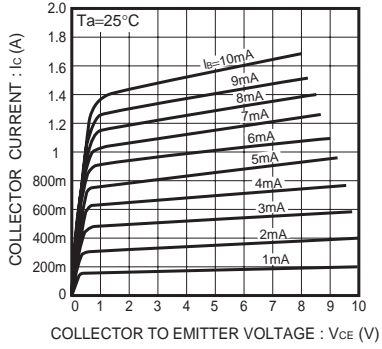


Fig.1 Grounded Emitter Output Characteristics

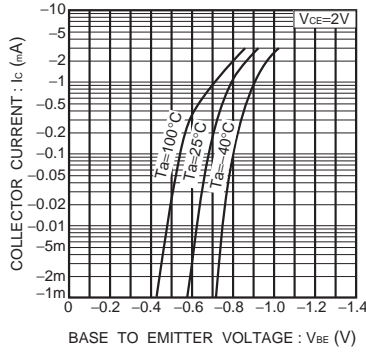


Fig.2 Grounded Emitter Propagation Characteristics

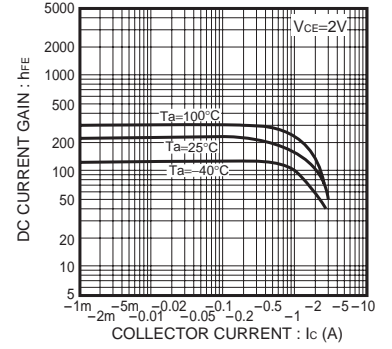


Fig.3 DC Current Gain vs. Collector Current

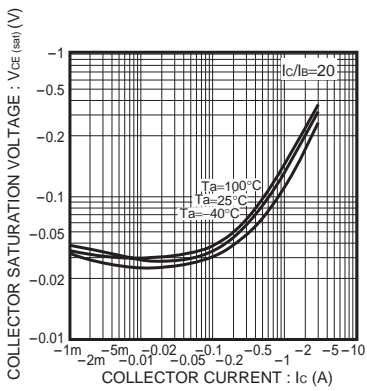


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current

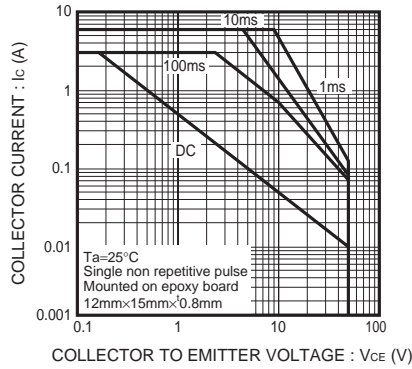


Fig.5 Safe Operating Area

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