

# Power Transistor (−50V, −3A)

## 2SA1797

### ●Features

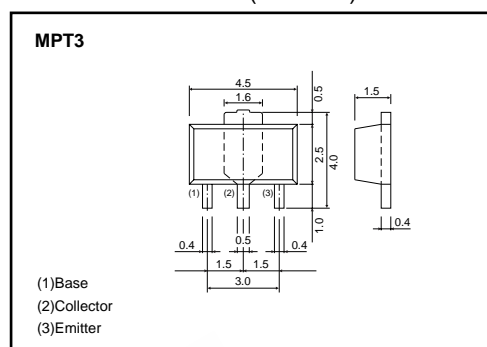
- 1) Low saturation voltage.  
 $V_{CE(sat)} = -0.35V$  (Max.) at  $I_C / I_B = -1A / -50mA$ .
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SC4672.

### ●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	2SA1797 $P_C$	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  $40 \times 40 \times 0.7mm$  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	$\mu A$	$V_{CB} = -50V$
Emitter cutoff current	$I_{EBO}$	−	−	−0.1	$\mu A$	$V_{EB} = -5V$
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

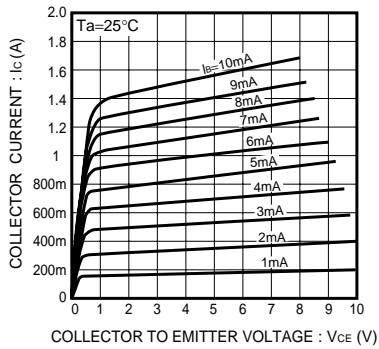


Fig.1 Grounded emitter output characteristics

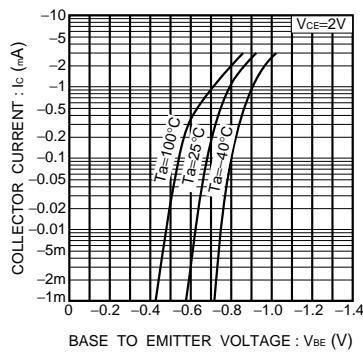


Fig.2 Grounded emitter propagation characteristics

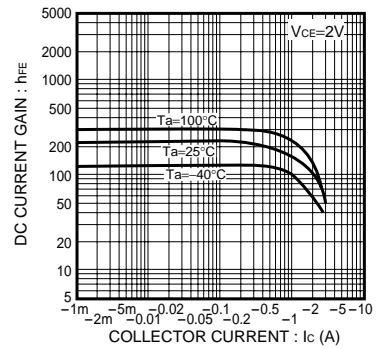


Fig.3 DC current gain vs. collector current

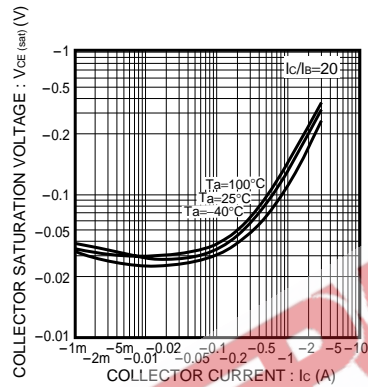


Fig.4 Collector-emitter saturation voltage vs. collector current

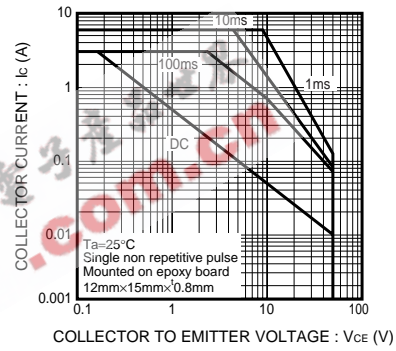


Fig.5 Safe operating area

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