

Power Transistor (-50V, -3A)

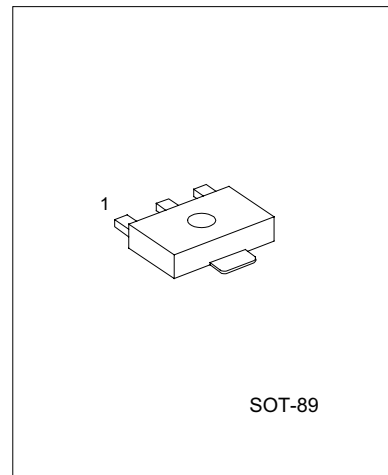
●Features

- 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.

●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	-3	A (DC)
		-5	A (Pulse) *
Collector power dissipation	2SA1797	P_C	0.5
			2 *2
			1 *3
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~ 150	°C

*1 Single pulse, $P_w=10ms$
 *2 When mounted on a 40x 40x 0.7mm ceramic board.
 *3 Printed circuit board 1.7mm thick, collector plating 1cm² or larger.



SOT-89

1:EMITTER 2:COLLECTOR 3:BASE

●Packaging specifications and hFE

Type	2SA1797
Package	SOT-89
hFE	PQ
Marking	AG
Code	T100
Basic ordering unit (Pieces)	1000

*Denotes hFE

●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	$I_C = -1 mA$
Emitter-base breakdown voltage	BV_{EB0}	-6			V	$I_E = -50\mu A$
Collector cutoff current	I_{CB0}			-0.1	μA	$V_{CB} = -50V$
Emitter cutoff current	I_{EB0}			-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	2SA1797	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

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

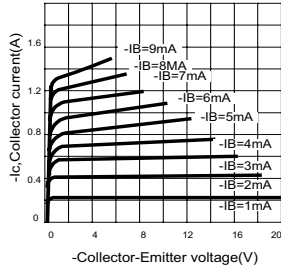


Fig.2 Derating curve of safe operating areas

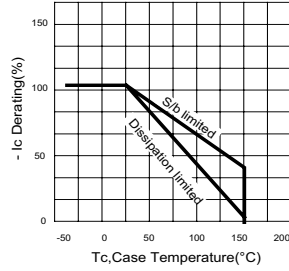


Fig.3 Power Derating

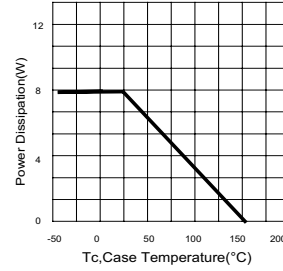


Fig.4 Collector Output capacitance

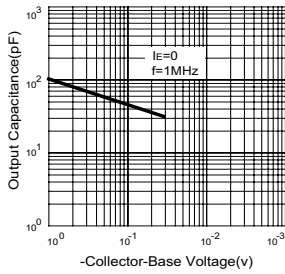


Fig.5 Current gain-bandwidth product

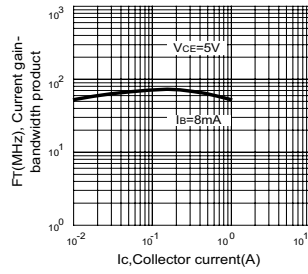


Fig.6 Safe operating area

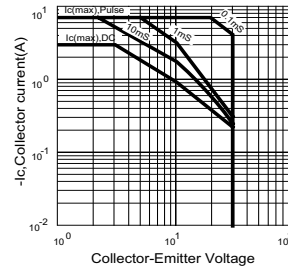


Fig.7 DC current gain

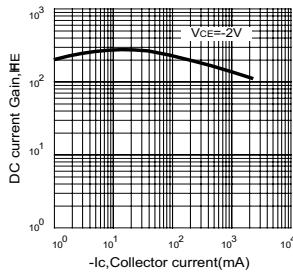


Fig.8 Saturation Voltage

