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Medium Power Transistor (−50V, −1A)

2SA1900

● Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = -0.15V$ at $I_C / I_E = -500mA / -50mA$.
- 2) $P_C = 2W$ (on $40 \times 40 \times 0.7$ mm ceramic board.)
- 3) Complements the 2SC5053.

● Packaging specifications and hFE

Type	2SA1900
Package	MPT3
hFE	Q
Marking	AL*
Code	T100
Basic ordering unit (pieces)	1000

* Denotes hFE

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−60	V
Collector-emitter voltage	V_{CEO}	−50	V
Emitter-base voltage	V_{EBO}	−5	V
Collector current	I_C	−1	A
		−2	A (Pulse) *1
Collector power dissipation	P_C	0.5	W
		2	W *2
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	−55~+150	°C

*1 Single pulse $P_w = 10ms, Duty = 1/2$

*2 When mounted on a $40 \times 40 \times 0.7$ mm ceramic board.

● Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−60	—	—	V	$I_C = -50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	−50	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	$I_E = -50 \mu A$
Collector cutoff current	I_{CBO}	—	—	−0.1	μA	$V_{CB} = -40V$
Emitter cutoff current	I_{EBO}	—	—	−0.5	μA	$V_{EB} = -4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	−0.4	—	V	$I_C/I_E = -500mA/-50mA$
DC current transfer ratio	hFE	120	—	270	—	$V_{CE}/I_C = -3V/-0.5A$
Transition frequency	f_T	—	150	—	MHz	$V_{CE} = -5V, I_E = 50mA, f = 100MHz$
Output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$

(96-115-B352)

Medium Power Transistor (50V, 1A)

2SC5053

● Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = 0.12V$ at $I_C / I_E = 500mA / 50mA$.
- 2) $P_C = 2W$ (on $40 \times 40 \times 0.7$ mm ceramic board)
- 3) Complements the 2SA1900

● Packaging specifications and hFE

Type	2SC5053
Package	MPT3
hFE	QR
Marking	CG*
Code	T100
Basic ordering unit (pieces)	1000

* Denotes hFE

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	1	A (DC)
		2	A (Pulse) *1
Collector power dissipation	P_C	0.5	W
		2	W *2
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	−55~+150	°C

*1 Single pulse $P_w = 20ms, Duty = 1/2$

*2 When mounted on a $40 \times 40 \times 0.7$ mm ceramic board.

● Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	$I_C = 50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	$I_E = 50 \mu A$
Collector cutoff current	I_{CBO}	—	—	0.1	μA	$V_{CB} = 40V$
Emitter cutoff current	I_{EBO}	—	—	0.1	μA	$V_{EB} = 4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.4	—	V	$I_C/I_E = 500mA/50mA$
DC current transfer ratio	hFE	120	—	390	—	$V_{CE}/I_C = 3V/0.5A$
Transition frequency	f_T	—	150	—	MHz	$V_{CE} = 5V, I_E = -50mA, f = 100MHz$
Output capacitance	C_{ob}	—	15	—	pF	$V_{CB} = 10V, I_E = 0A, f = 1MHz$

(96-196-D352)