

# 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	$\mu A$	$V_{CB} = -40V$
Emitter cutoff current	$I_{EBO}$	—	—	−0.5	$\mu A$	$V_{EB} = -4V$
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	$\mu A$	$V_{CB} = 40V$
Emitter cutoff current	$I_{EBO}$	—	—	0.1	$\mu A$	$V_{EB} = 4V$
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)

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