Medium Power Transistor (−50V, −1A)

2SA1900

● Features

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

●Absolute maximum ratings (Ta=25℃)

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	Tj	150	℃	
Storage temperature	Tstg	−55~+150	℃	

✻1 Single pulse Pw=10ms, Duty=1 / 2
✻2 When mounted on a 40 × 40 × 0.7 mm ceramic board.

●Packaging specifications and h_{FE}

Type	2SA1900
Package	MPT3
h_{FE}	Q
Marking	AL✻
Code	T100
Basic ordering unit (pieces)	1000

✻ Denotes h_{FE}

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−60	—	—	V	I_C=−50 μA
Collector-emitter breakdown voltage	BV_{CEO}	−50	—	—	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	I_E=−50 μA
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_B=−500mA/−50mA
DC current transfer ratio	h_{FE}	120	—	270	—	V_{CE}/I_C=−3V/−0.5A
Transition frequency	fr	—	150	—	MHz	V_{CE}=−5V , I_E=50mA , f=100MHz
Output capacitance	Cob	—	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_B=500mA / 50mA.
2) P_C = 2 W (on 40 × 40 × 0.7 mm ceramic board)
3) Complements the 2SA1900

●Absolute maximum ratings (Ta=25℃)

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	Tj	150	℃	
Storage temperature	Tstg	−55~+150	℃	

✻1 Single pulse Pw=20ms, Duty=1 / 2
✻2 When mounted on a 40 × 40 × 0.7 mm ceramic board.

●Packaging specifications and h_{FE}

Type	2SC5053
Package	MPT3
h_{FE}	QR
Marking	CG✻
Code	T100
Basic ordering nuit (pieces)	1000

✻ Denotes h_{FE}

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=50 μA
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_B=500mA/50mA
DC current transfer ratio	h_{FE}	120	—	390	—	V_{CE}/I_C=3V/0.5A
Transition frequency	fr	—	150	—	MHz	V_{CE}=5V , I_E=−50mA , f=100MHz
Output capacitance	Cob	—	15	—	pF	V_{CB}=10V , I_E=0A , f=1MHz

(96-196-D352)