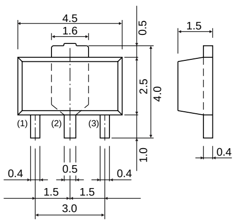
Medium power transistor (50V, 1A)

2SC5053

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

●External dimensions (Unit : mm)



● 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
Collector power dissipation	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

∗1 Single pulse Pw=100ms, Duty=1/2
∗2 When mounted on a 40×40×0.7mm seramic board.

●External dimensions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–60	–	–	V	I_C=–50µA
Collector-emitter breakdown voltage	BV_{CEO}	–50	–	–	V	I_C=–1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E=–50µA
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	f_T	–	150	–	MHz	V_{CE}=–5V , I_E=50mA , f=100MHz
Output capacitance	Cob	–	20	–	pF	V_{CB}=–10V , I_E=0A , f=1MHz

●Packaging specifications and h_{FE}

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

∗ Denotes h_{FE}

●Electric characteristics curves

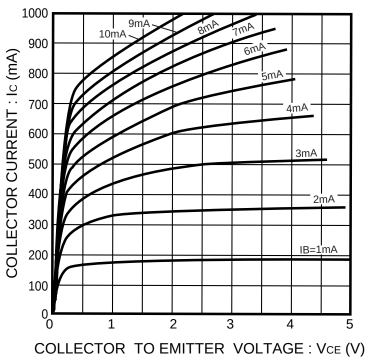


Fig.1 Grounded emitter output characteristics

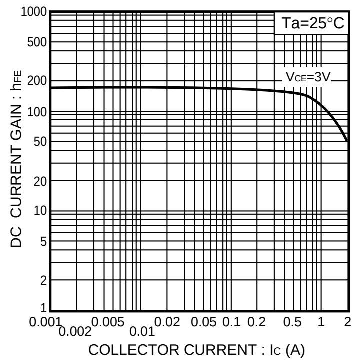


Fig.2 DC current gain
vs. collector current

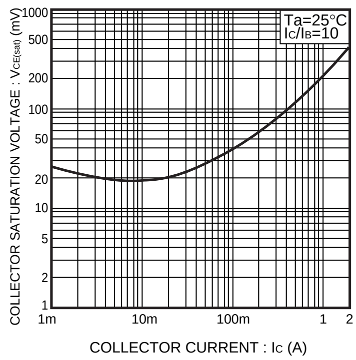


Fig.3 Collector-emitter saturation voltage
vs.collector current

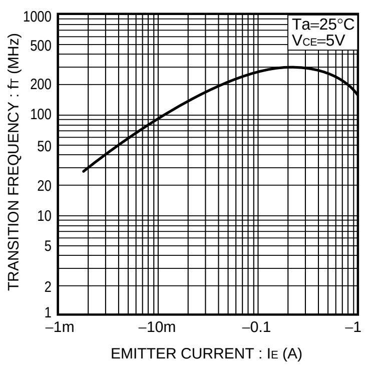


Fig.4 Gain bandwith product
vs. emitter current

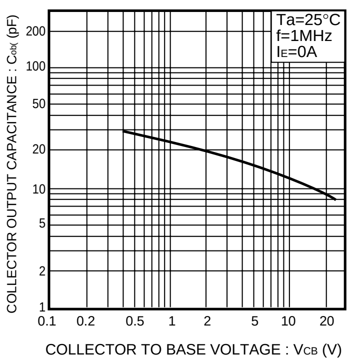


Fig.5 Collector output capacitance
vs. collector-base voltage

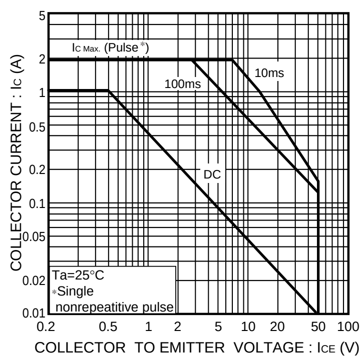


Fig.6 Safe operating area

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