



**THE DATASHEET OF
2SC5053T100R**



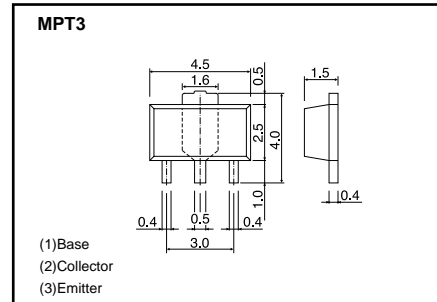
Medium power transistor (50V, 1A)

2SC5053

●Features

- 1) Low saturation voltage, typically $V_{CE(sat)}=0.12V$ at $I_C/I_B=500mA/50mA$
- 2) $P_C=2W$ (on $40\times40\times0.7mm$ ceramic board)
- 3) Complements the 2SA1900

●Dimensions (Unit : mm)



● Absolute maximum ratings ($T_a=25^\circ C$)

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	$^\circ C$
Storage temperature	t_{stg}	-55 to +150	$^\circ C$

*1 Single pulse $P_w=100ms$

*2 When mounted on a $40\times40\times0.7mm$ ceramic board.

●Electrical characteristics ($T_a=25^\circ C$)

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	$I_C/I_B=500mA/50mA$
DC current transfer ratio	h_{FE}	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	$V_{CB}=10V, I_E=0A, f=1MHz$

●Packaging specifications and h_{FE}

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

* Denotes h_{FE}

Transistors

●Electric characteristics curves

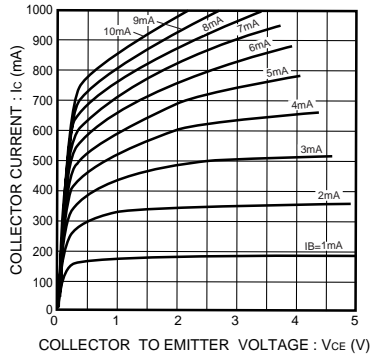


Fig.1 Grounded emitter output characteristics

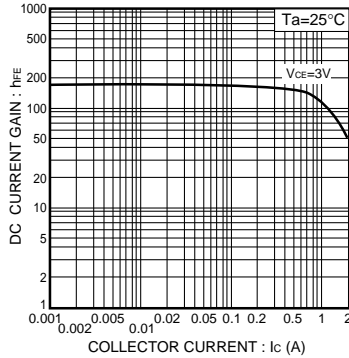


Fig.2 DC current gain vs. collector current

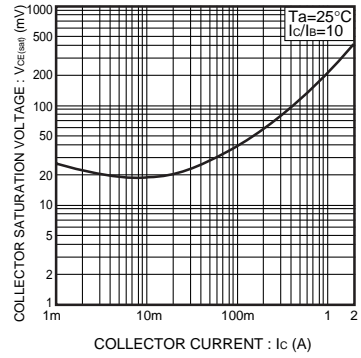


Fig.3 Collector-emitter saturation voltage vs. collector current

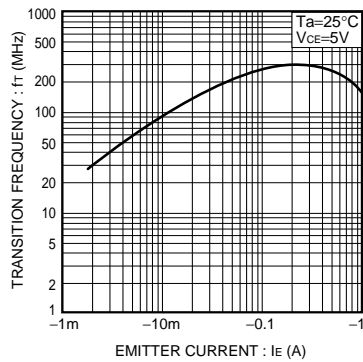


Fig.4 Gain bandwidth product vs. emitter current

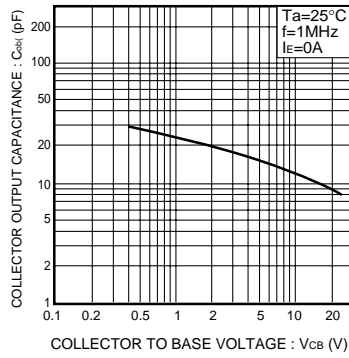


Fig.5 Collector output capacitance vs. collector-base voltage

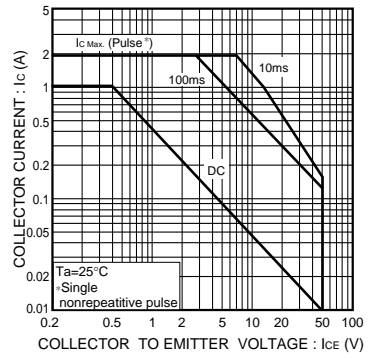


Fig.6 Safe operating area

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