Medium Power Transistor (25V, 1.2A)

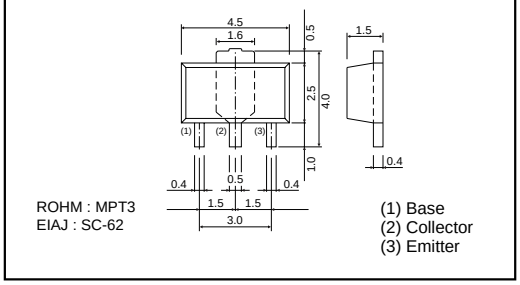
2SD2537

●Features

1) High DC current gain.
2) High emitter-base voltage. (V_{EBO}=12V)
3) Low saturation voltage.
   (Max. $V_{CE(sat)}$=0.3V at I_C/I_B=500mA/10mA)

●Dimensions (Unit : mm)

2SD2537



ROHM : MPT3
EIAJ : SC-62

(1) Base
(2) Collector
(3) Emitter

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	12	V
Collector current	I_C	1.2	A (DC)
		2	A (Pulse) ∗1
Collector power dissipation	P_C	0.5	W
		2	W ∗2
Junction temperature	Tj	150	°C
Storage temperature	Tstg	−55 to +150	°C

∗1 Single pulse Pw=100ms ∗2 When mounted on a 40×40×0.7mm ceramic board.

●Packaging specifications and h_{FE}

Type	2SD2537
Package	MPT3
h_{FE}	V
Marking	DV
Code	T100
Basic ordering unit (pieces)	1000

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	30	–	–	V	I_C=10μA
Collector-emitter breakdown voltage	BV_{CEO}	25	–	–	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	12	–	–	V	I_E=10μA
Collector cutoff current	I_{CBO}	–	–	0.3	μA	V_{CB}=30V
Emitter cutoff current	I_{EBO}	–	–	0.3	μA	V_{EB}=12V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.3	V	I_C/I_B=500mA/10mA ∗
Base-emitter saturation voltage	$V_{BE(sat)}$	–	–	1.2	V	I_C/I_B=0.5A/10mA
DC current transfer ratio	h_{FE}	820	–	1800	–	V_{CE}/I_C=5V/0.5A
Transition frequency	f_T	–	200	–	MHz	V_{CE}=10V, I_E=−50mA, f=100MHz ∗
Output capacitance	Cob	–	20	–	pF	V_{CB}=10V, I_E=0A, f=1MHz

∗Measured using pulse current.

●Electrical characteristics curves

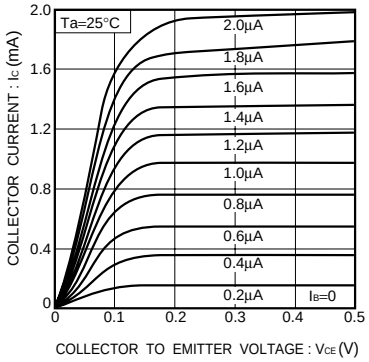


Fig.1 Ground emitter output characteristics(Ⅰ)

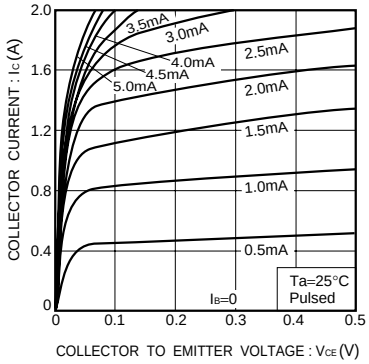


Fig.2 Ground emitter output characteristics (Ⅱ)

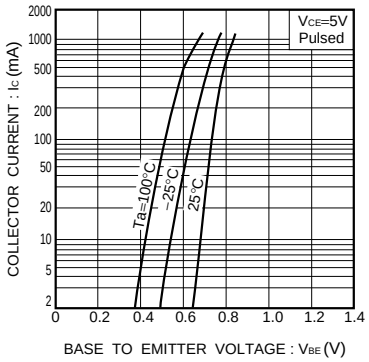


Fig.3 Ground emitter propagation characteristics

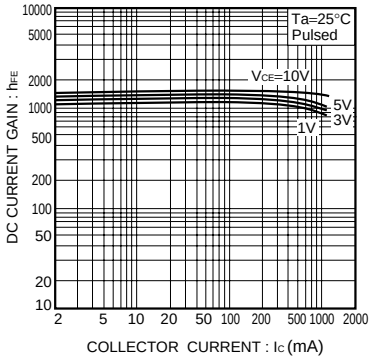


Fig.4 DC current gain vs. collector current (Ⅰ)

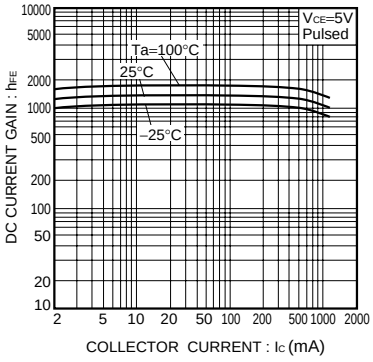


Fig.5 DC current gain vs. collector current (Ⅱ)

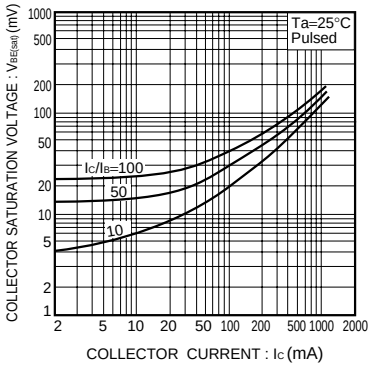


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅰ)

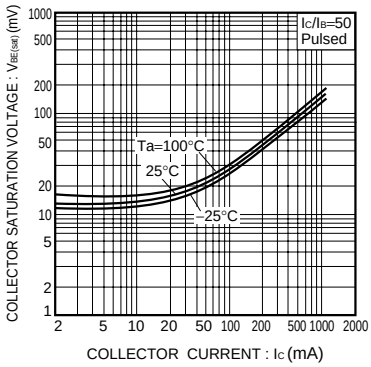


Fig.7 Collector-emitter saturation voltage vs. collector current (Ⅱ)

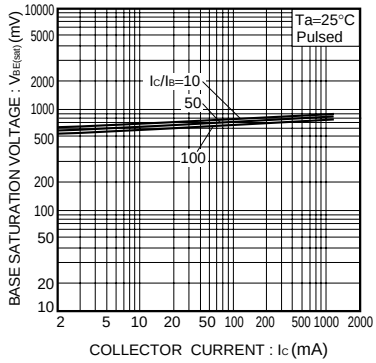


Fig.8 Base-emitter saturation voltage vs. collector current (Ⅰ)

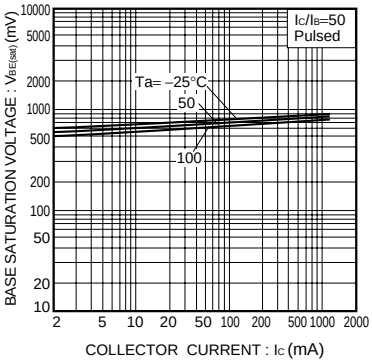


Fig.9 Base-emitter saturation voltage vs. collector current (Ⅱ)

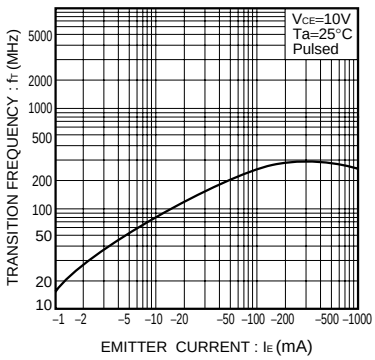


Fig.10 Gain bandwidth product vs. emitter current

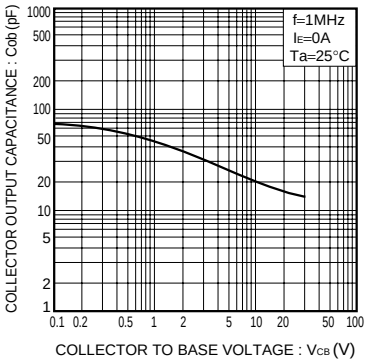


Fig.11 Collector output capacitance vs. collector-base voltage

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