

# Medium Power Transistor (25V, 1.2A)

## 2SD2537

### ●Features

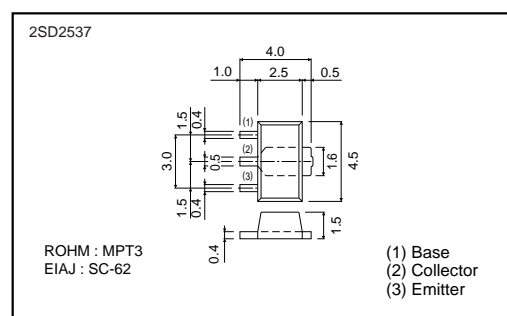
- 1) High DC current gain.
- 2) High emitter-base voltage. ( $V_{EB0}=12V$ )
- 3) Low saturation voltage.  
(Max.  $V_{CE(sat)}=0.3V$  at  $I_C/I_B=500mA/10mA$ )

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

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

\*1 Single pulse  $P_w=100ms$  \*2 When mounted on a  $40 \times 40 \times 0.7mm$  ceramic board.

### ●External dimensions (Unit : mm)



### ●Packaging specifications and $h_{FE}$

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

\* Denotes  $h_{FE}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	30	—	—	V	$I_C=10\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	25	—	—	V	$I_C=1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	12	—	—	V	$I_E=10\mu A$
Collector cutoff current	$I_{CBO}$	—	—	0.3	$\mu A$	$V_{CB}=30V$
Emitter cutoff current	$I_{EBO}$	—	—	0.3	$\mu A$	$V_{EB}=12V$
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	—	2700	—	$V_{CE}/I_C=5V/0.5A$
Transition frequency	$f_T$	—	200	—	MHz	$V_{CE}=10V, I_E=-50mA, f=100MHz$ *
Output capacitance	$C_{ob}$	—	20	—	pF	$V_{CB}=10V, I_E=0A, f=1MHz$

\*Measured using pulse current.

## Transistors

## ●Electrical characteristics curves

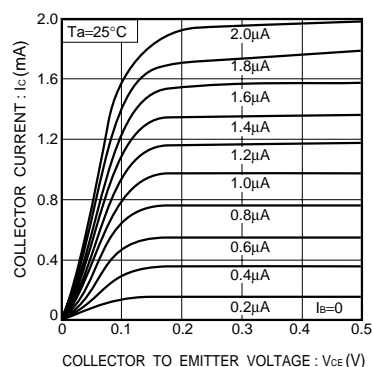


Fig.1 Ground emitter output characteristics (I)

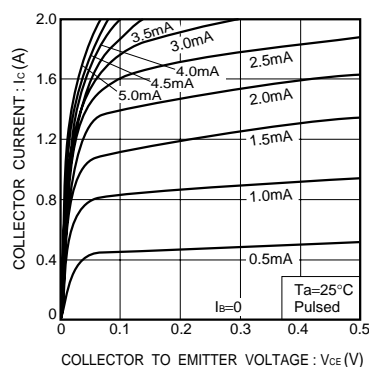


Fig.2 Ground emitter output characteristics (II)

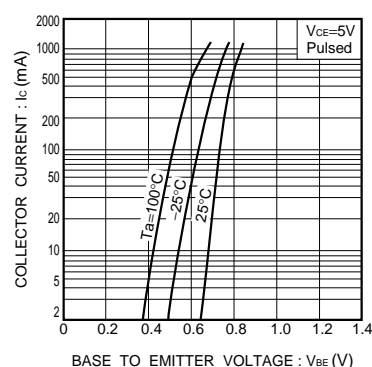


Fig.3 Ground emitter propagation characteristics

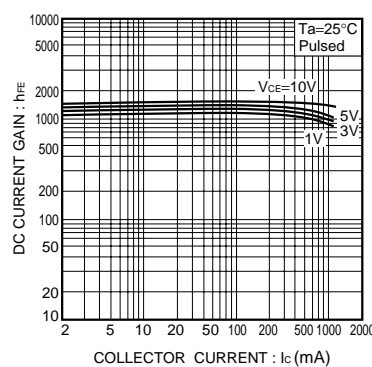


Fig.4 DC current gain vs. collector current (I)

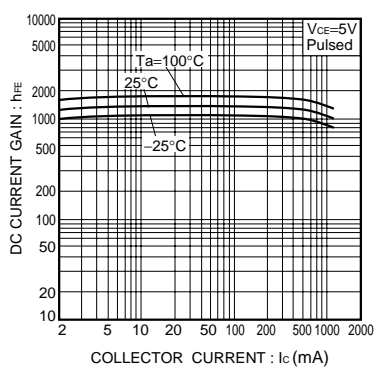


Fig.5 DC current gain vs. collector current (II)

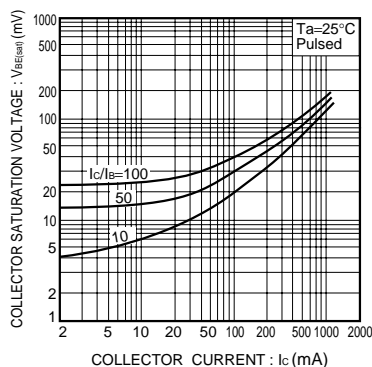


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

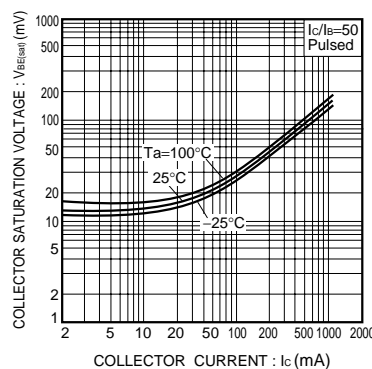


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

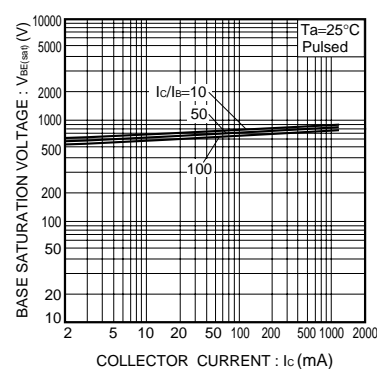


Fig.8 Base-emitter saturation voltage vs. collector current (I)

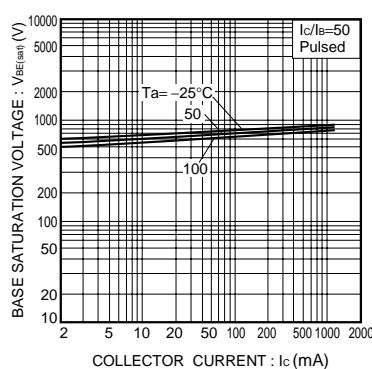


Fig.9 Base-emitter saturation voltage vs. collector current (II)

## Transistors

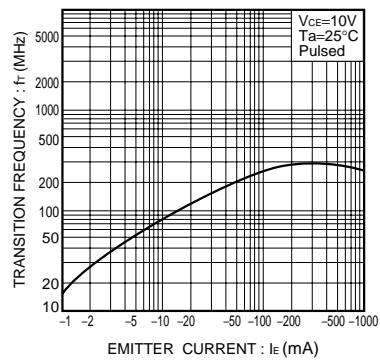


Fig.10 Gain bandwidth product  
vs. emitter current

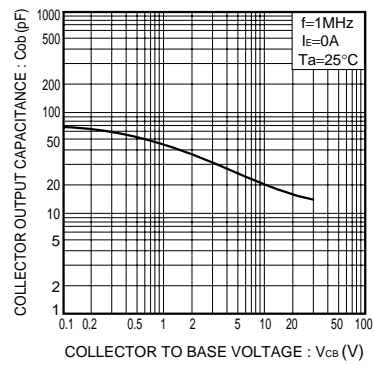


Fig.11 Collector output capacitance  
vs. collector-base voltage

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