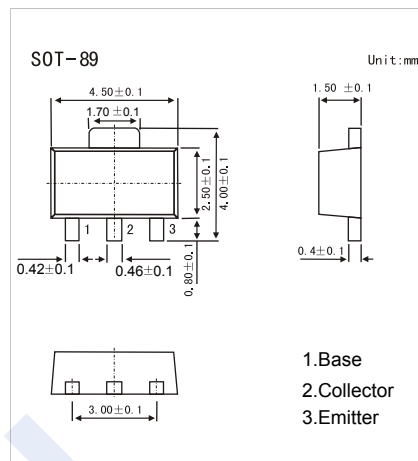


NPN Transistors

2SD2537

■ Features

- High DC current gain.
- High emitter-base voltage.
- Low saturation voltage.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	30	V
Collector - Emitter Voltage	V_{CE0}	25	
Emitter - Base Voltage	V_{EB0}	9	
Collector Current - Continuous	I_C	1.2	A
Collector Current - Pulse (Note.1)	I_{CP}	2	
Collector Power Dissipation	P_C	0.5	W
		2	
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: Single pulse $P_w=10\text{ms}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100\ \mu\text{A}$, $I_E = 0$	30			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = 1\ \text{mA}$, $I_B = 0$	25			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100\ \mu\text{A}$, $I_C = 0$	9			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 30\ \text{V}$, $I_E = 0$			0.3	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 9\ \text{V}$, $I_C = 0$			0.3	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\ \text{mA}$, $I_B = 10\ \text{mA}$			0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500\ \text{mA}$, $I_B = 10\ \text{mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 5\ \text{V}$, $I_C = 500\ \text{mA}$	820		2700	
Collector output capacitance	C_{ob}	$V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		20		pF
Transition frequency	f_T	$V_{CE} = 10\ \text{V}$, $I_E = -50\ \text{mA}$, $f = 100\ \text{MHz}$		200		MHz

■ Classification of h_{FE}

Type	2SD2537-V	2SD2537-W
Range	820-1800	1200-2700
Marking	DV	DW

NPN Transistors

2SD2537

Typical Characteristics

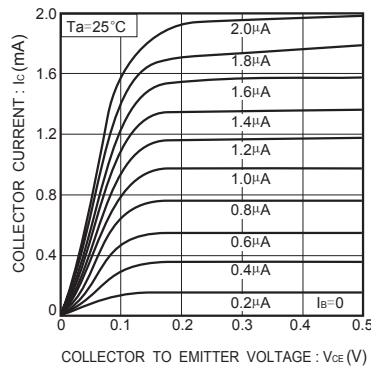


Fig.1 Ground emitter output characteristics (I)

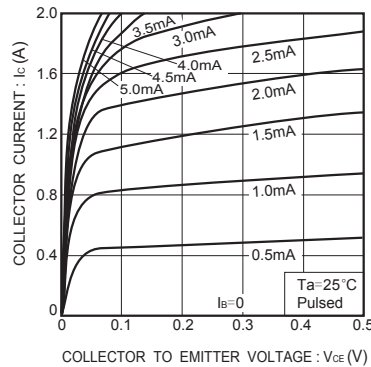


Fig.2 Ground emitter output characteristics (II)

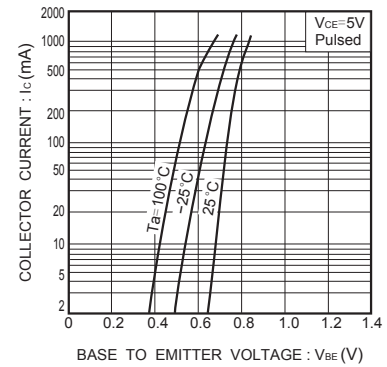


Fig.3 Ground emitter propagation characteristics

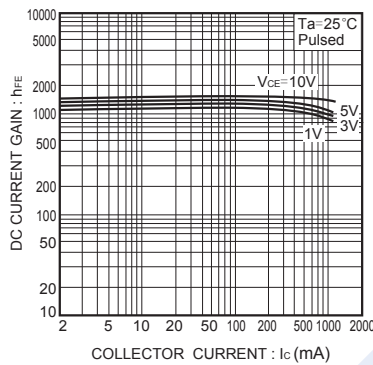


Fig.4 DC current gain vs. collector current (I)

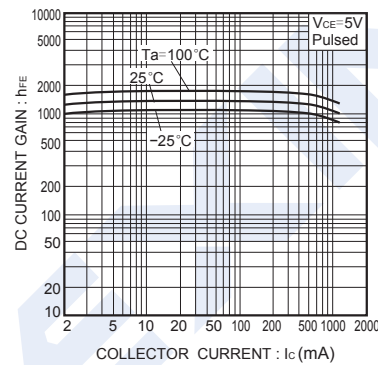


Fig.5 DC current gain vs. collector current (II)

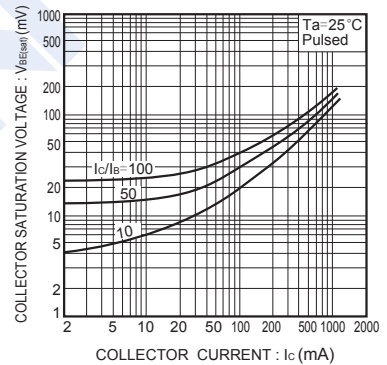


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

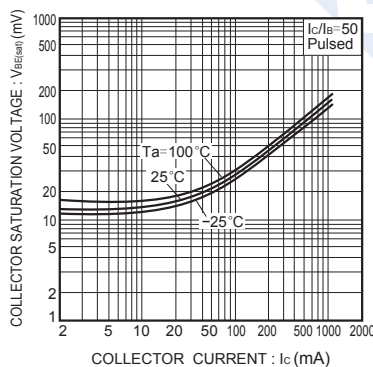


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

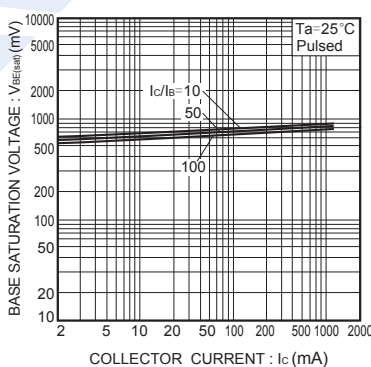


Fig.8 Base-emitter saturation voltage vs. collector current (I)

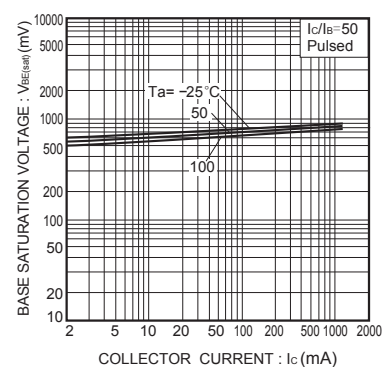


Fig.9 Base-emitter saturation voltage vs. collector current (II)

NPN Transistors

2SD2537

■ Typical Characteristics

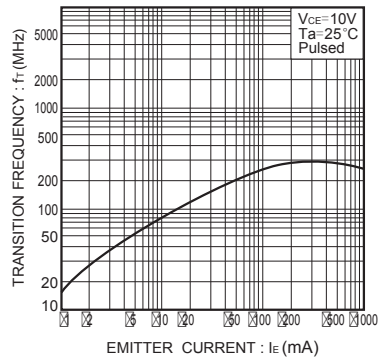


Fig.10 Gain bandwidth product vs. emitter current

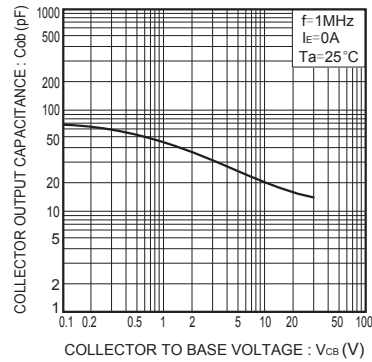


Fig.11 Collector output capacitance vs. collector-base voltage