

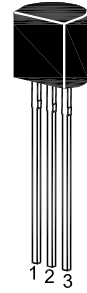
2N6517

NPN Silicon Epitaxial Planar Transistor

On special request, these transistors can be manufactured in different pin configurations.

Applications

- For switching and amplifier



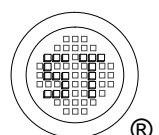
1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	350	V
Collector Emitter Voltage	V_{CEO}	350	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	500	mA
Total Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

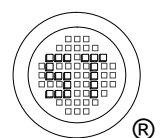
Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$



2N6517

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$	h_{FE}	20	-	-
at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$	h_{FE}	30	-	-
at $V_{CE} = 10\text{ V}$, $I_C = 30\text{ mA}$	h_{FE}	30	200	-
at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$	h_{FE}	20	200	-
at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$	h_{FE}	15	-	-
Collector Base Cutoff Current at $V_{CB} = 250\text{ V}$	I_{CBO}	-	50	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	50	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	350	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	350	-	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage				
at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	0.3	V
at $I_C = 20\text{ mA}$, $I_B = 2\text{ mA}$	$V_{CE(sat)}$	-	0.35	V
at $I_C = 30\text{ mA}$, $I_B = 3\text{ mA}$	$V_{CE(sat)}$	-	0.5	V
at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	$V_{CE(sat)}$	-	1	V
Base Emitter Saturation Voltage				
at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$	$V_{BE(sat)}$	-	0.75	V
at $I_C = 20\text{ mA}$, $I_B = 2\text{ mA}$	$V_{BE(sat)}$	-	0.85	V
at $I_C = 30\text{ mA}$, $I_B = 3\text{ mA}$	$V_{BE(sat)}$	-	0.9	V
Base Emitter On Voltage at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$	$V_{BE(on)}$	-	2	V
Gain Bandwidth Product at $V_{CE} = 20\text{ V}$, $I_C = 10\text{ mA}$, $f = 20\text{ MHz}$	f_T	40	200	MHz
Collector Base Capacitance at $V_{CB} = 20\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	6	pF



Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

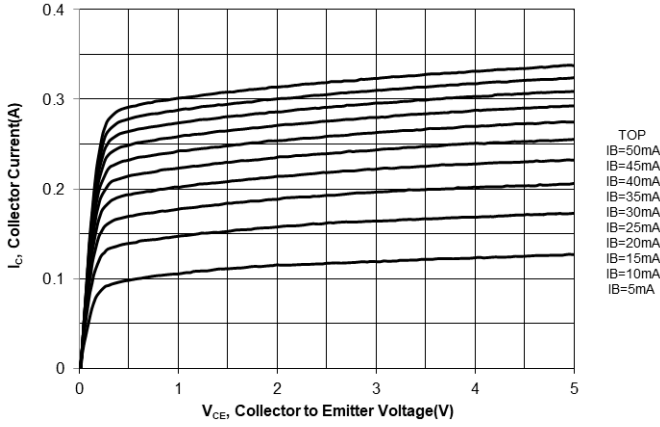


Fig. 2 Collector Current vs. V_{BE}

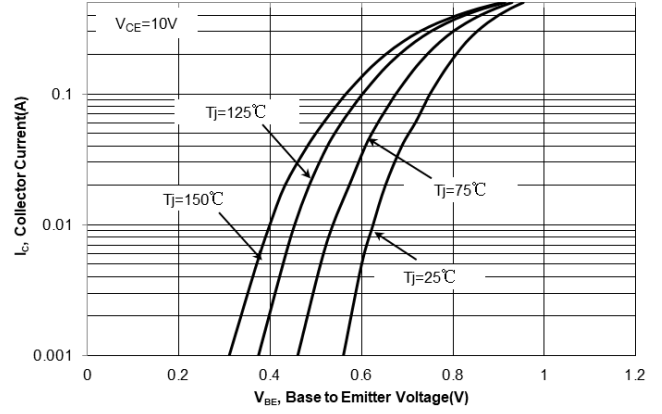


Fig. 3 h_{FE} vs. Collector Current

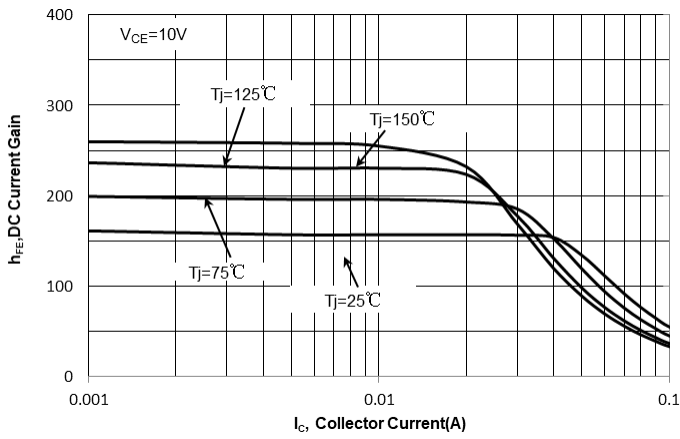
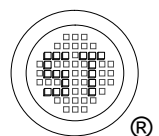
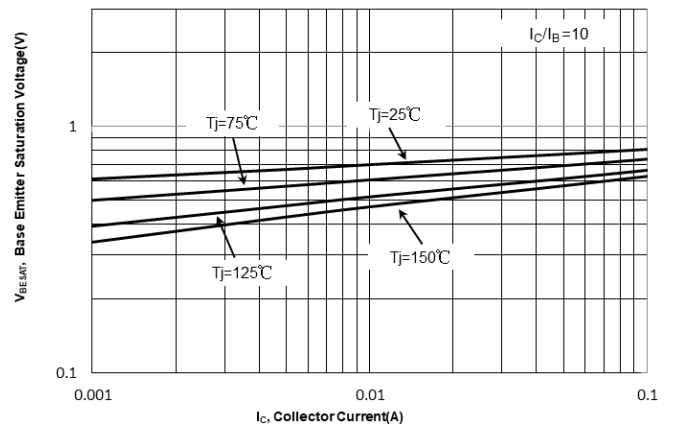


Fig. 4 $V_{BE(sat)}$ vs. Collector Current



Electrical Characteristics Curves

Fig. 5 $V_{CE(sat)}$ vs. Collector Current

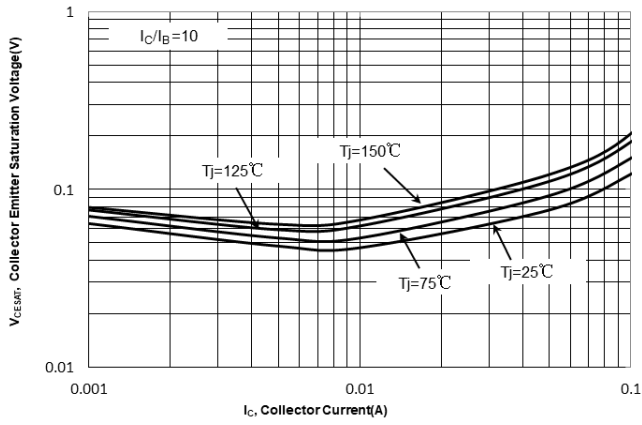


Fig. 6 Output Capacitance

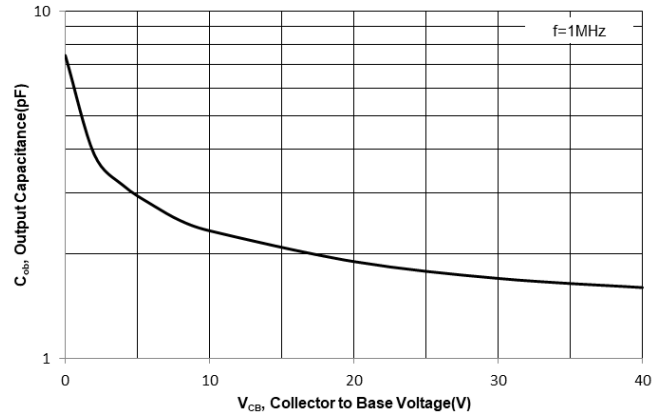


Fig. 7 Power Derating Curve

