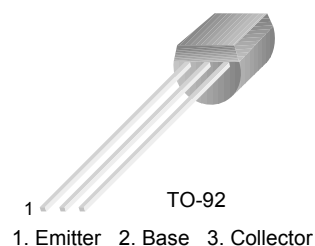


2N6517

NPN Epitaxial Silicon Transistor

Features

- High Voltage Transistor
- Collector Dissipation: $P_C(\text{max}) = 625\text{mW}$
- Complement to 2N6520
- Suffix “-C” means Center Collector (1. Emitter 2. Collector 3. Base)



Absolute Maximum Ratings $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	2N6517 350	V
		2N6517C 400	V
V_{CEO}	Collector-Emitter Voltage	2N6517 350	V
		2N6517C 400	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	625	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
BV _{CBO}	Collector-Base Breakdown Voltage				
	2N6517 2N6517C	I _C = 100μA, I _E = 0 I _C = 100μA, I _E = 0	350 400		V V
BV _{CEO}	Collector-Emitter Breakdown Voltage *				
	2N6517 2N6517C	I _C = 1mA, I _B = 0 I _C = 1mA, I _B = 0	350 400		V V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = 10μA, I _C = 0	6		V
I _{CBO}	Collector Cut-off Current	V _{CB} = 250V, I _E = 0		50	nA
I _{EBO}	Emitter Cut-off Current	V _{EB} = 5V, I _C = 0		50	nA
h _{FE}	DC Current Gain *				
	2N6517/2N6517C	V _{CE} = 10V, I _C = 1mA	20		
	2N6517/2N6517C	V _{CE} = 10V, I _C = 10mA	30		
	2N6517/2N6517C	V _{CE} = 10V, I _C = 30mA	30	200	
	2N6517/2N6517C	V _{CE} = 10V, I _C = 50mA	20	200	
	2N6517/2N6517C	V _{CE} = 10V, I _C = 100mA	15		
	2N6517C	V _{CE} = 10V, I _C = 5mA	50	200	

Electrical Characteristics (Continued) $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 1\text{mA}$		0.3	V
		$I_C = 20\text{mA}, I_B = 2\text{mA}$		0.35	V
		$I_C = 30\text{mA}, I_B = 3\text{mA}$		0.5	V
		$I_C = 50\text{mA}, I_B = 5\text{mA}$		1	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 1\text{mA}$		0.75	V
		$I_C = 20\text{mA}, I_B = 2\text{mA}$		0.85	V
		$I_C = 30\text{mA}, I_B = 3\text{mA}$		0.9	V
C_{ob}	Output Capacitance	$V_{CB} = 20\text{V}, I_E = 0, f = 1\text{MHz}$		6	pF
f_T	Current Gain Bandwidth Product *	$I_C = 10\text{mA}, V_{CE} = 20\text{V}, f = 20\text{MHz}$	40	200	MHz
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 100\text{mA}, V_{CE} = 10\text{V}$		2	V

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

Typical Performance Characteristics

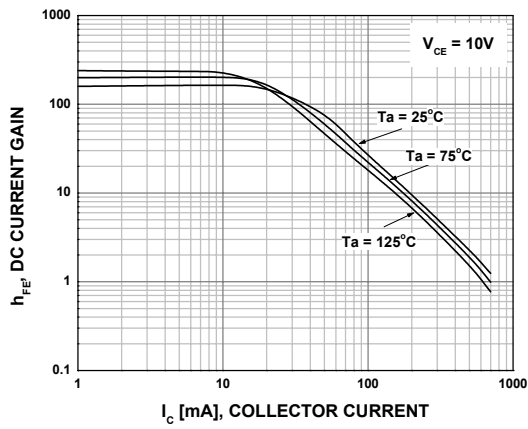


Figure 1. DC Current Gain

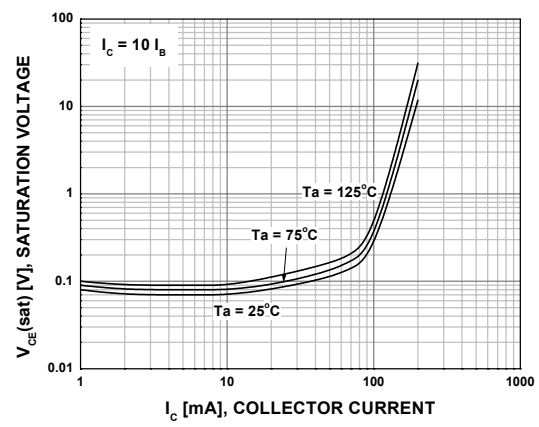


Figure 2. Saturation Voltage

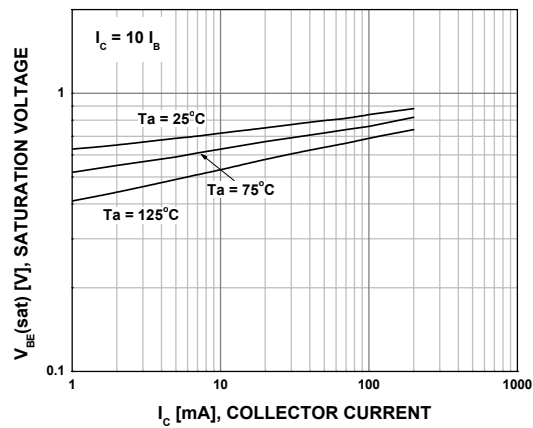


Figure 3. Saturation Voltage

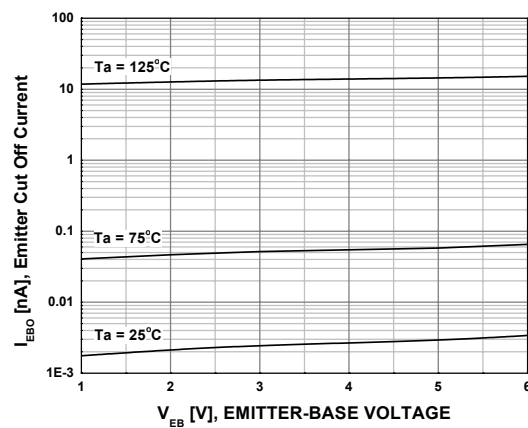


Figure 4. Emitter Cut Off Current

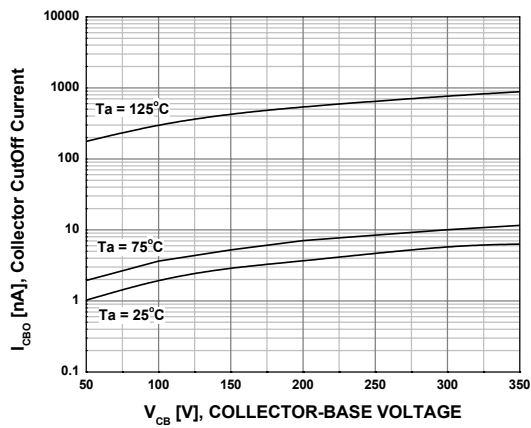


Figure 5. Collector CutOff Current

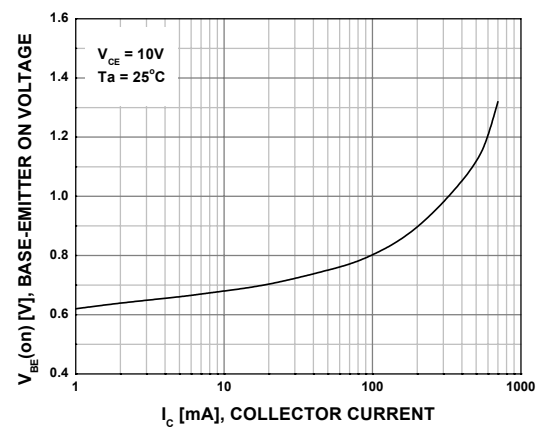


Figure 6. Base-Emitter On Voltage

Typical Performance Characteristics (Continued)

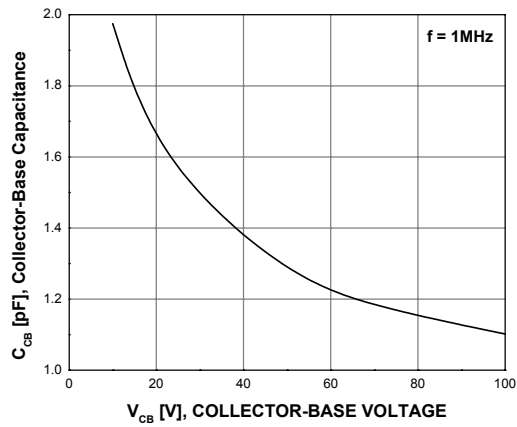


Figure 7. Output Capacitance

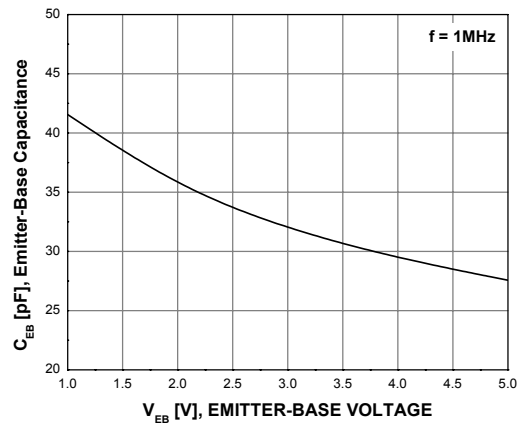


Figure 8. Input Capacitance

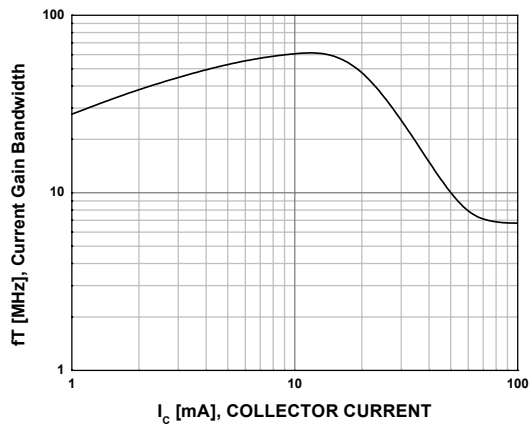


Figure 9. Current Gain Bandwidth Product

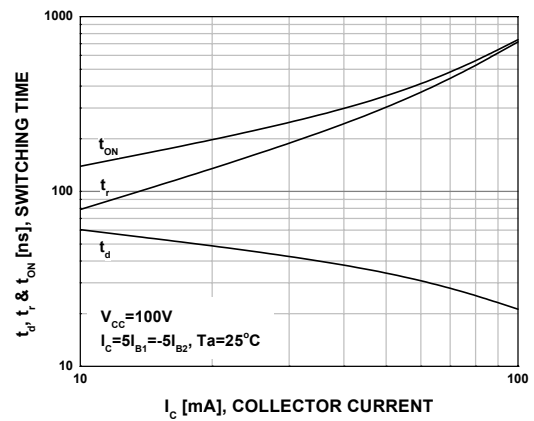


Figure 10. Resistive Load Switching

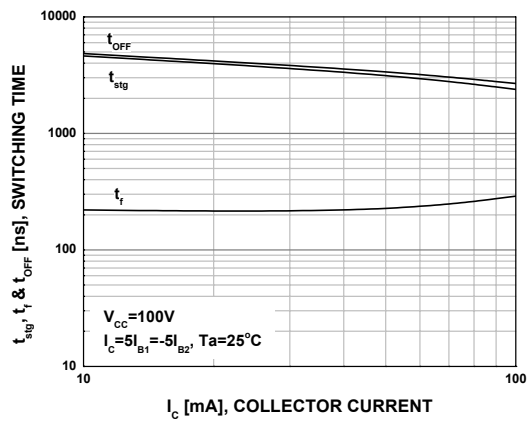
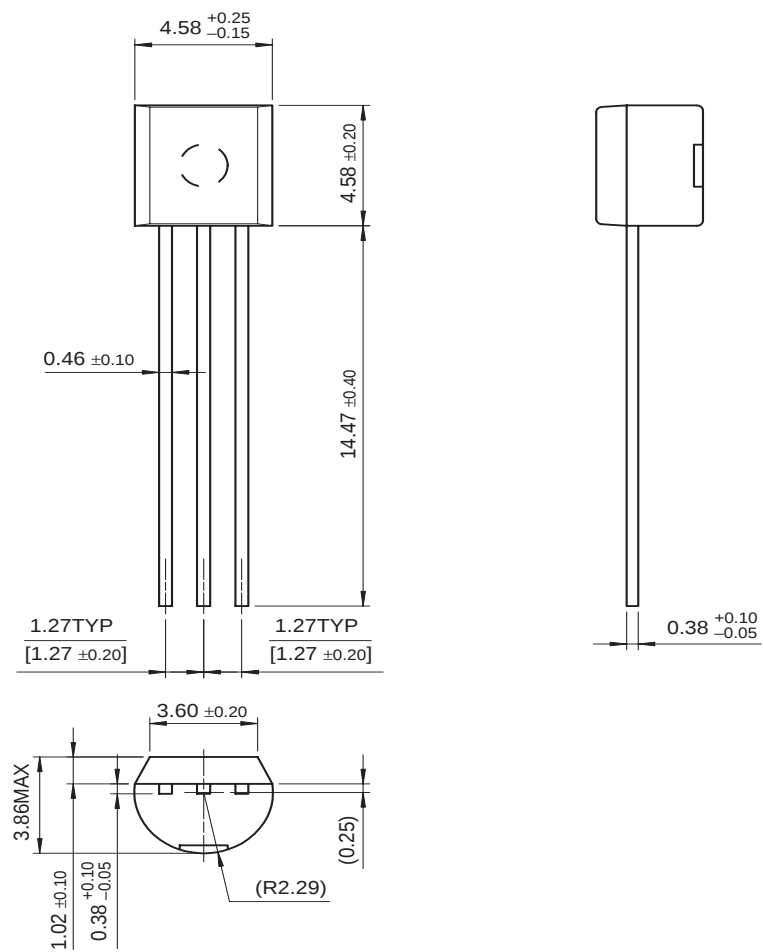


Figure 11. Resistive Load Switching

Physical Dimensions

TO-92



Dimensions in Millimeters



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