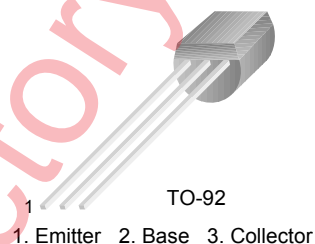


2N6517

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
		2N6517C	400
V_{CEO}	Collector-Emitter Voltage	2N6517	350
		2N6517C	400
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 $I_C = 100\mu\text{A}, I_E = 0$	350		V
		2N6517C $I_C = 100\mu\text{A}, I_E = 0$	400		V
BV_{CEO}	Collector-Emitter Breakdown Voltage *	2N6517 $I_C = 1\text{mA}, I_B = 0$	350		V
		2N6517C $I_C = 1\text{mA}, I_B = 0$	400		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}, I_C = 0$	6		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 250\text{V}, I_E = 0$		50	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$		50	nA
h_{FE}	DC Current Gain *	2N6517/2N6517C $V_{CE} = 10\text{V}, I_C = 1\text{mA}$	20		
		2N6517/2N6517C $V_{CE} = 10\text{V}, I_C = 10\text{mA}$	30		
		2N6517/2N6517C $V_{CE} = 10\text{V}, I_C = 30\text{mA}$	30	200	
		2N6517/2N6517C $V_{CE} = 10\text{V}, I_C = 50\text{mA}$	20	200	
		2N6517/2N6517C $V_{CE} = 10\text{V}, I_C = 100\text{mA}$	15		
		2N6517C $V_{CE} = 10\text{V}, I_C = 5\text{mA}$	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

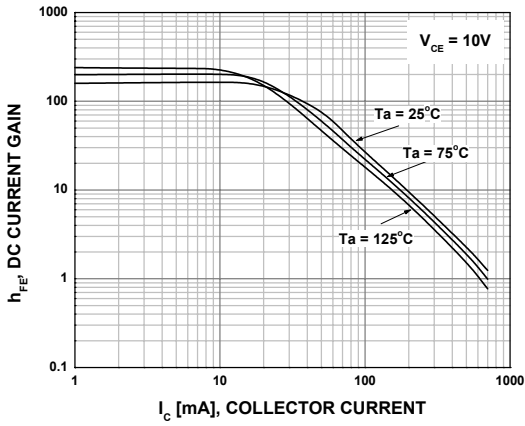


Figure 1. DC Current Gain

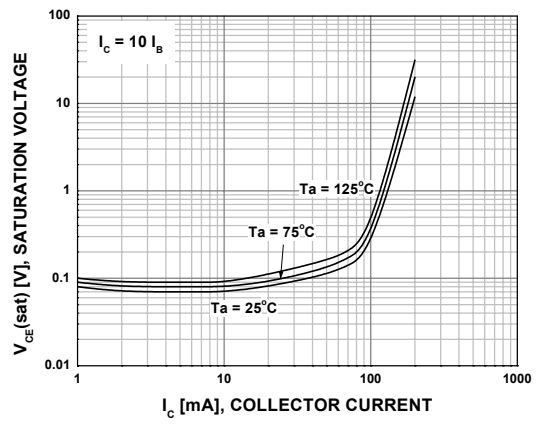


Figure 2. Saturation Voltage

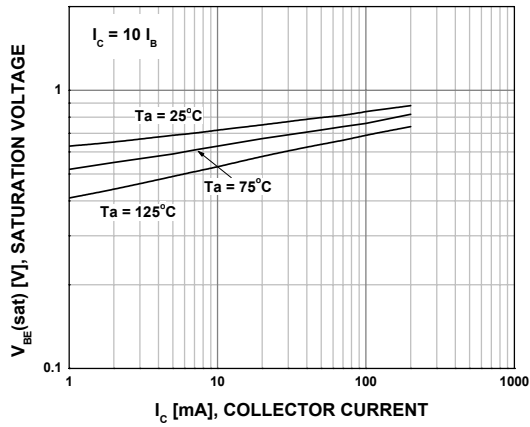


Figure 3. Saturation Voltage

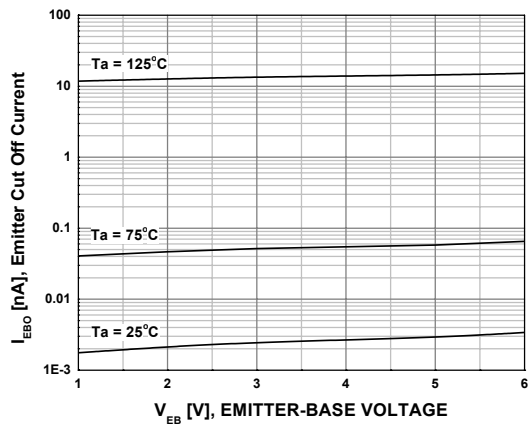


Figure 4. Emitter Cut Off Current

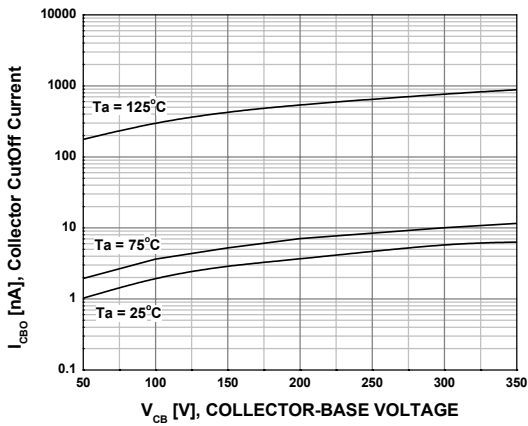


Figure 5. Collector CutOff Current

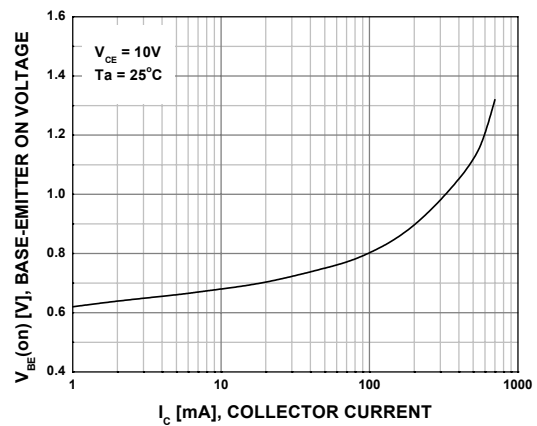


Figure 6. Base-Emitter On Voltage

Typical Performance Characteristics (Continued)

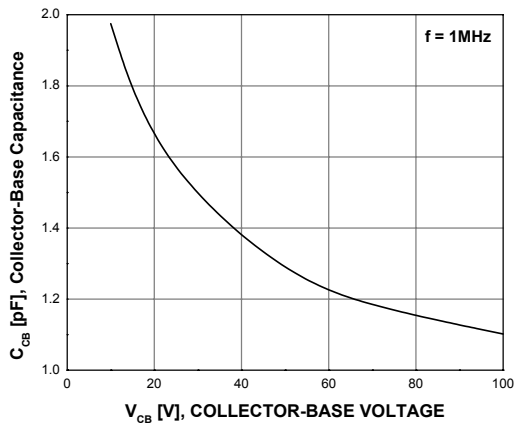


Figure 7. Output Capacitance

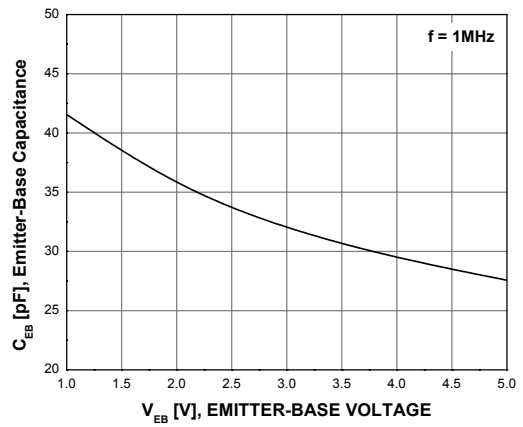


Figure 8. Input Capacitance

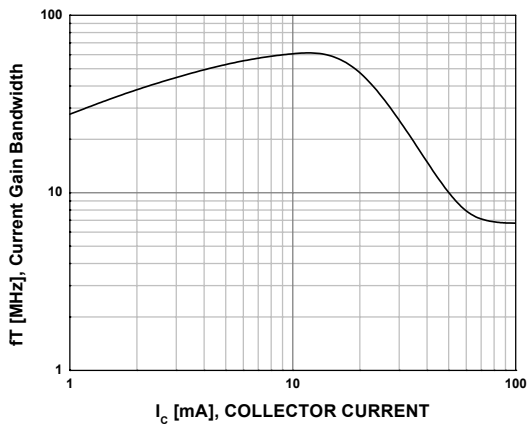


Figure 9. Current Gain Bandwidth Product

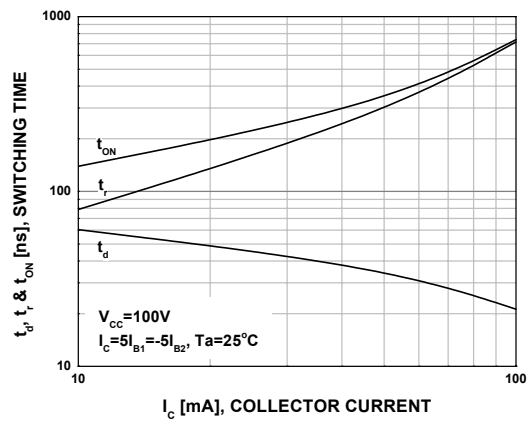


Figure 10. Resistive Load Switching

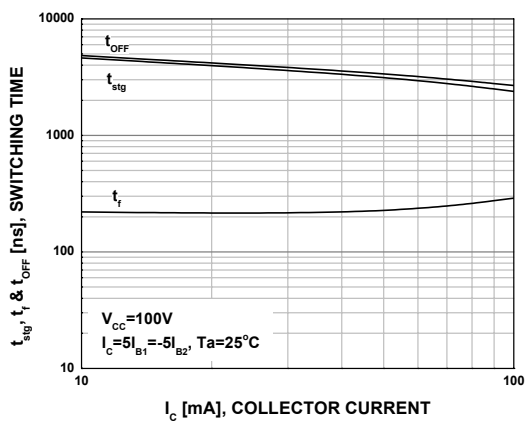
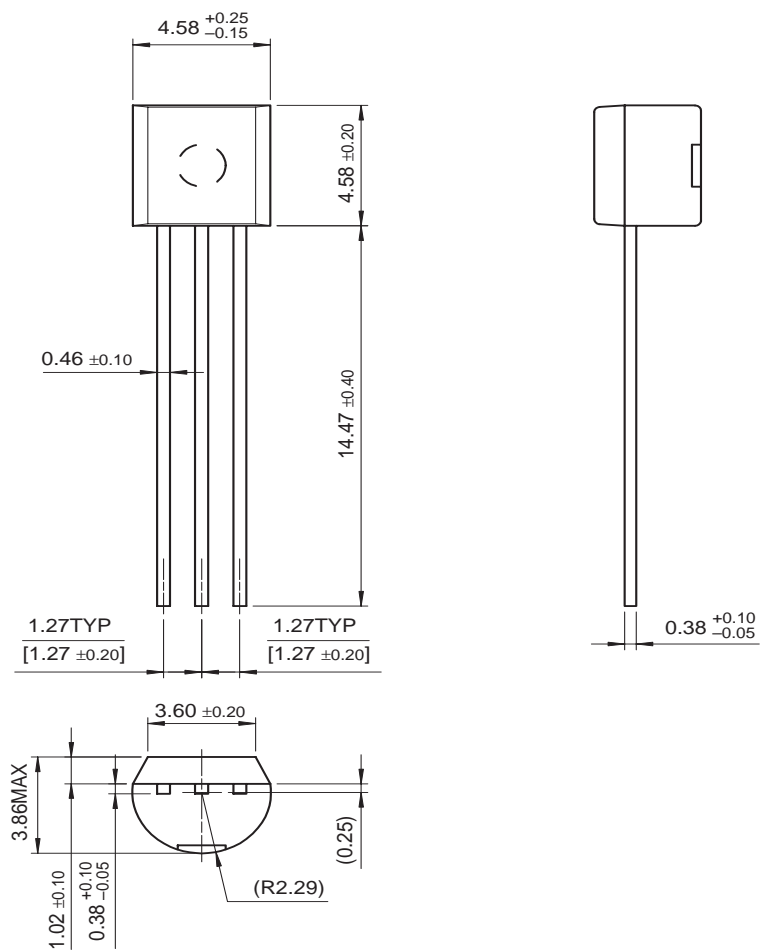


Figure 11. Resistive Load Switching

Physical Dimensions

TO-92



Dimensions in Millimeters



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