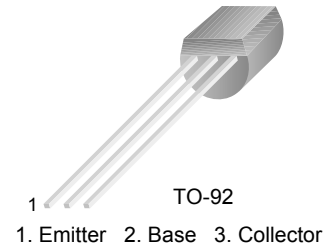


# 2N6520

## PNP Epitaxial Silicon Transistor

### Features

- High Voltage Transistor
- Collector-Emitter Voltage:  $V_{CE0} = -350V$
- Collector Dissipation:  $P_C (max) = 625mW$
- Complement to 2N6517



### Absolute Maximum Ratings\* $T_A = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-350	V
$V_{CEO}$	Collector-Emitter Voltage	-350	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-500	mA
$I_B$	Base Current	-250	mA
$P_C$	Collector Power Dissipation	0.625	W
	Derate above $25^\circ C$	5	mW/ $^\circ C$
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	-55 to +150	$^\circ C$

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

Symbol	Parameter	Test Conditions	Min.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-350		V
$BV_{CEO}$	* Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0$	-350		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}, I_C = 0$	-5		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -250\text{V}, I_E = 0$		-50	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -4\text{V}, I_C = 0$		-50	nA
$h_{FE}$	* DC Current Gain	$V_{CE} = -10\text{V}, I_C = -1\text{mA}$ $V_{CE} = -10\text{V}, I_C = -10\text{mA}$ $V_{CE} = -10\text{V}, I_C = -30\text{mA}$ $V_{CE} = -10\text{V}, I_C = -50\text{mA}$ $V_{CE} = -10\text{V}, I_C = -100\text{mA}$	20 30 30 20 15	200 200	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -1\text{mA}$ $I_C = -20\text{mA}, I_B = -2\text{mA}$ $I_C = -30\text{mA}, I_B = -3\text{mA}$ $I_C = -50\text{mA}, I_B = -5\text{mA}$		-0.30 -0.35 -0.50 -1	V V V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -1\text{mA}$ $I_C = -20\text{mA}, I_B = -2\text{mA}$ $I_C = -30\text{mA}, I_B = -3\text{mA}$		-0.75 -0.85 -0.90	V V V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -10\text{V}, I_C = -100\text{mA}$		-2	V
$f_T$	* Current Gain Bandwidth Product	$V_{CE} = -20\text{V}, I_C = -10\text{mA}, f = 20\text{MHz}$	40	200	MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -20\text{V}, I_E = 0, f = 1\text{MHz}$		6	pF
$C_{EB}$	Emitter-Base Capacitance	$V_{EB} = -0.5\text{V}, I_C = 0, f = 1\text{MHz}$		100	pF
$t_{ON}$	Turn On Time	$V_{BE(off)} = -2\text{V}, V_{CC} = -100\text{V}$ $I_C = -50\text{mA}, I_{B1} = -10\text{mA}$		200	ns
$t_{OFF}$	Turn Off Time	$V_{CC} = -100\text{V}, I_C = -50\text{mA}$ $I_{B1} = I_{B2} = -10\text{mA}$		3.5	ns

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

### Typical Performance Characteristics

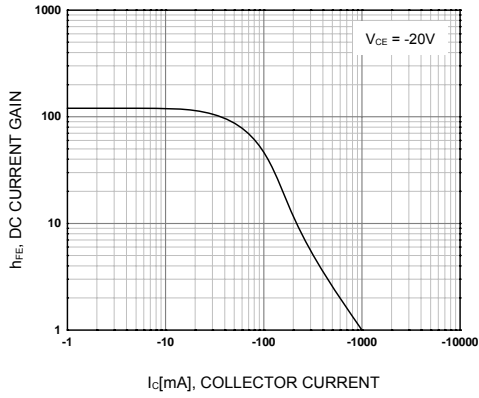


Figure 1. DC current Gain

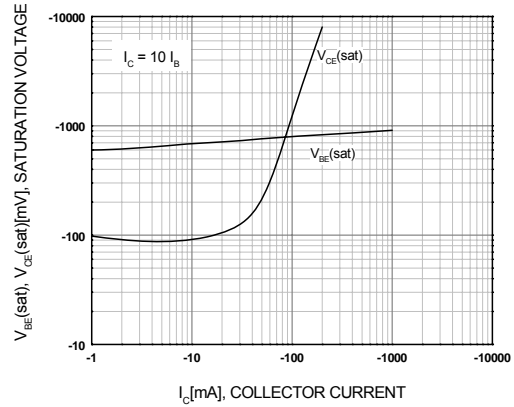


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

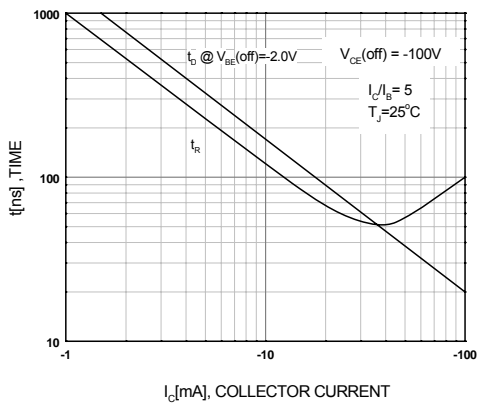


Figure 3. Turn-On Time

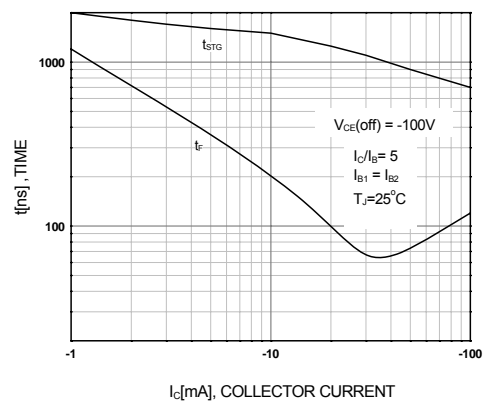


Figure 4. Turn-Off Time

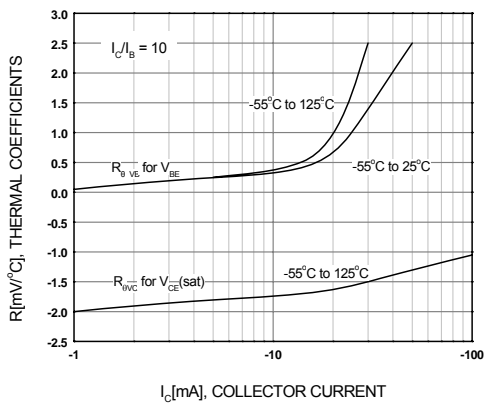


Figure 5. Temperature Coefficients

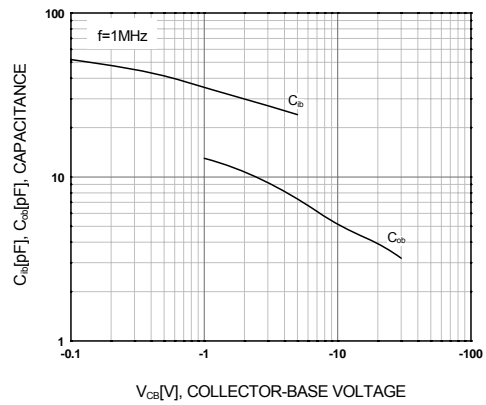


Figure 6. Capacitance

Typical Performance Characteristics

(Continued)

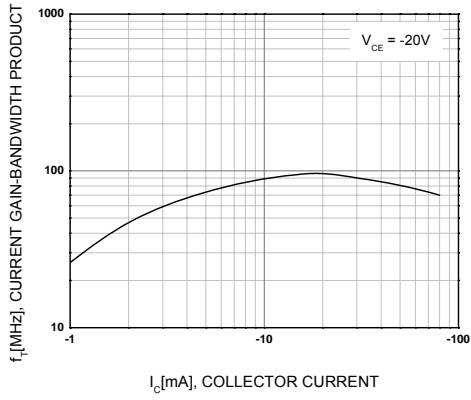
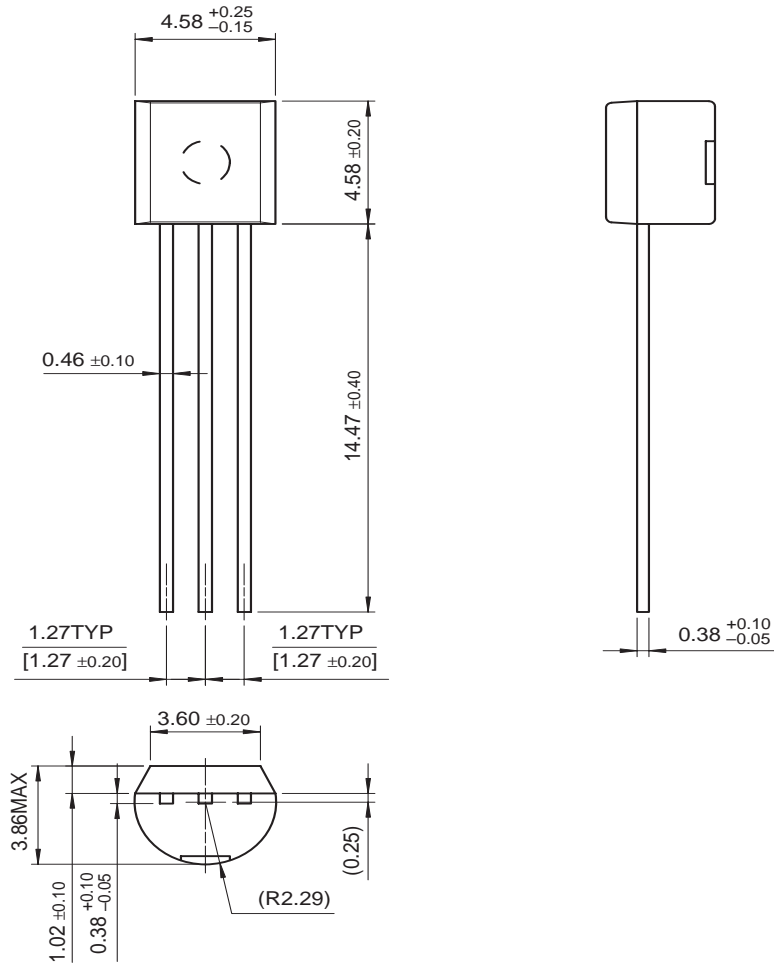


Figure 7. Current Gain Bandwidth Product

Physical Dimensions

TO-92






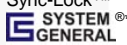


Dimensions in Millimeters



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Rev. 140



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