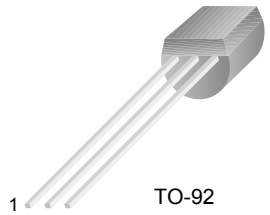
FAIRCHILD SEMICONDUCTOR®

June 2009

2N6520
PNP Epitaxial Silicon Transistor

Features

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



TO-92

1. Emitter 2. Base 3. Collector

Absolute Maximum Ratings* T_A = 25°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°C	5	mW/°C
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Electrical Characteristics T_A=25°C unless otherwise noted

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

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Typical Performance Characteristics

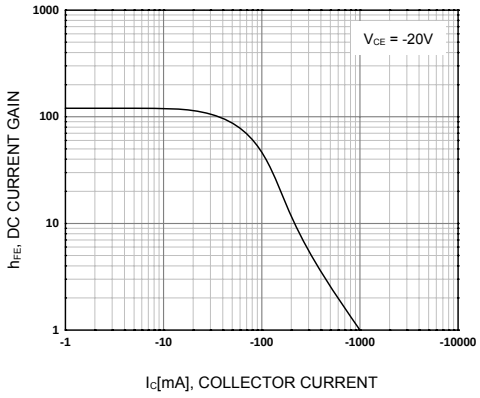


Figure 1. DC current Gain

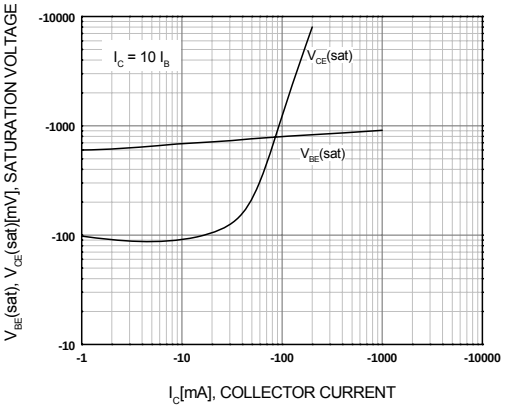


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

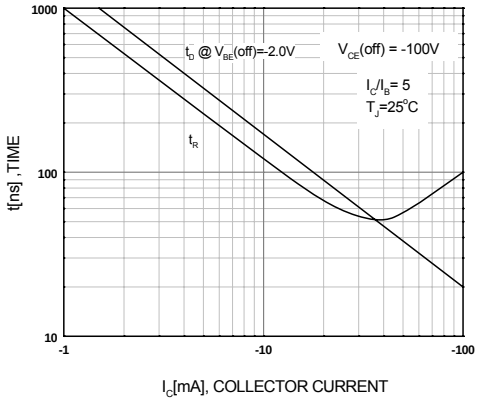


Figure 3. Turn-On Time

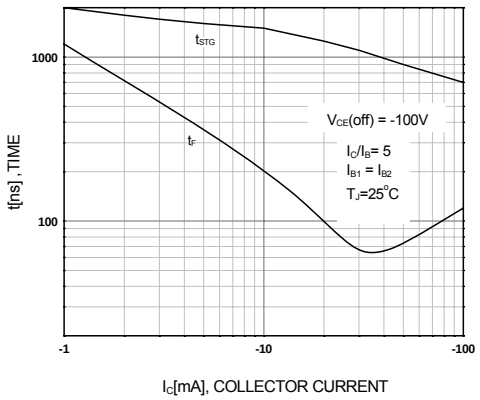


Figure 4. Turn-Off Time

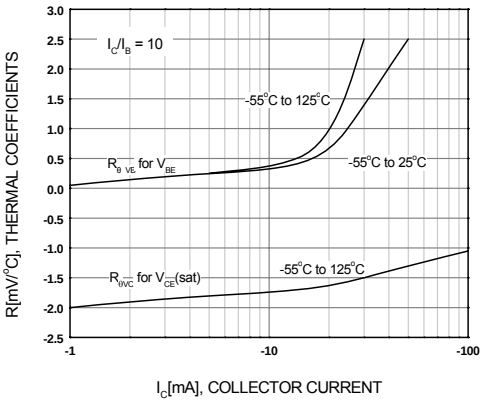


Figure 5. Temperature Coefficients

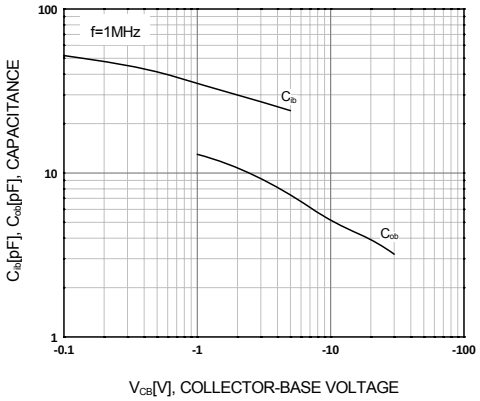


Figure 6. Capacitance

Typical Performance Characteristics (Continued)

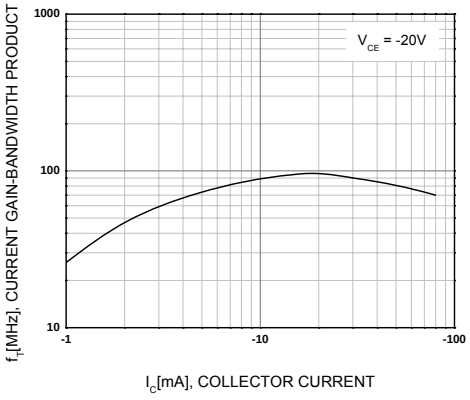
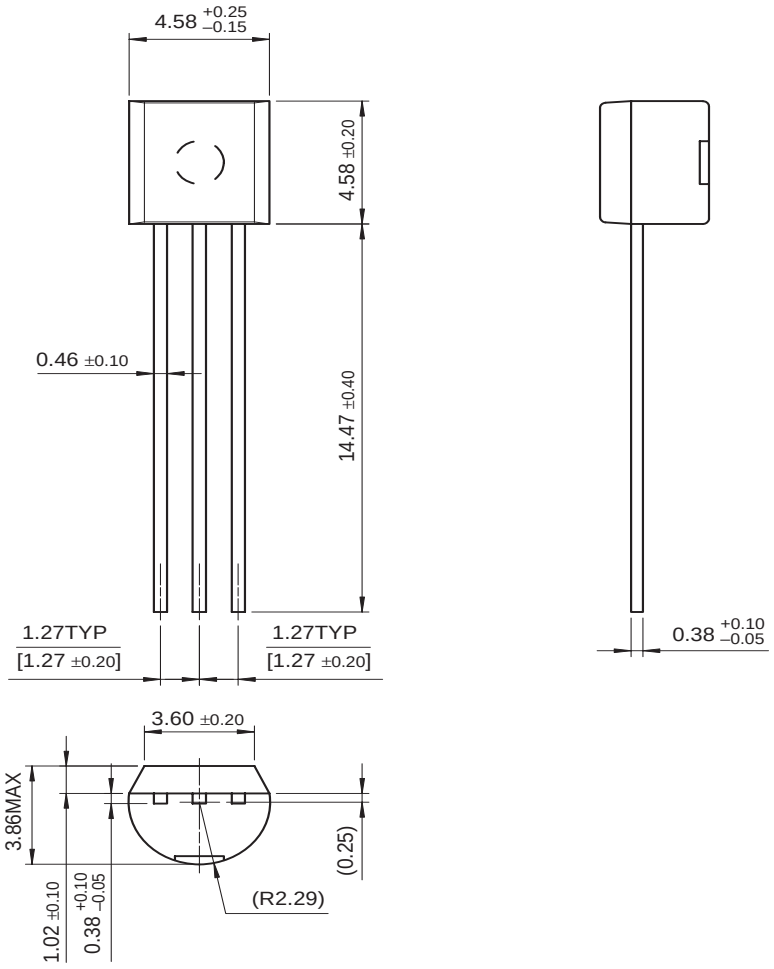


Figure 7. Current Gain Bandwidth Product

Physical Dimensions

TO-92



Dimensions in Millimeters

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Rev. I40