FAIRCHILD SEMICONDUCTOR®

June 2007

BC183

NPN General Purpose Amplifer

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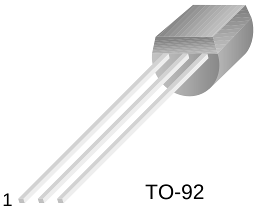

TO-92

1. Collector 2. Base 3. Emitter

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	100	mA
P_C	Collector Dissipation (T_a=25°C)	350	mW
T_{STG} , T_J	Storage Junction Temperature Range	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
BV_{CBO}	Collector-Base Voltage	I_C = 10µA	45		V
BV_{CEO}	Collector-Emitter Voltage	I_C = 2mA	30		V
BV_{EBO}	Emitter-Base Voltage	I_E = 10µA	5		V
I_{CBO}	Collector Cut-off Current	V_{CB} = 30V		15	nA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4.0V		15	nA
h_{FE}	DC Current Gain	V_{CE} = 5V, I_C = 10µA V_{CE} = 5V, I_C = 100mA	40 80		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5.0mA		0.25 0.6	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 100mA, I_B = 5mA		1.2	V
V_{BE}(on)	Base-Emitter On Voltage	V_{CE} = 5V, I_C = 2mA	0.55	0.7	V
C_{OB}	Output Capacitance	V_{CE} = 10V, f = 1.0MHz		5	pF
f_T	Current gain Bandwidth Product	V_{CE} = 5V, I_C = 10mA, f = 100MHz	150		MHz
h_{fe}	Small Signal Current Gain	V_{CE} = 5V, I_C = 2mA f = 1KHz	125	900	
NF	Noise Figure	V_{CE} = 5V, I_C = 200mA R_G = 2KΩ, f = 1KHz		10	dB

Typical Characteristics

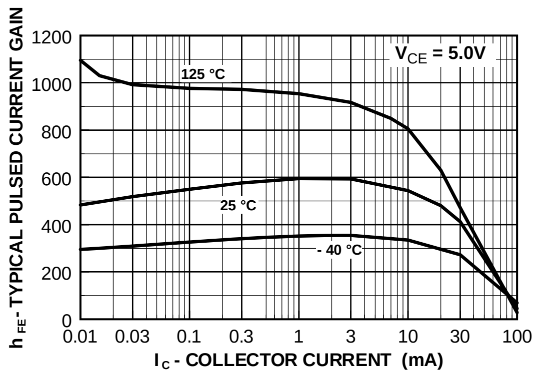

Figure 1. Typical Pulsed Current Gain vs Collector Current

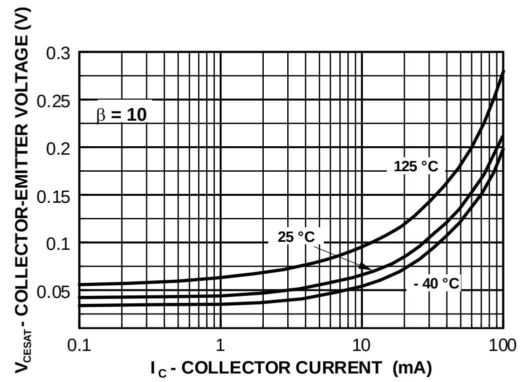

Figure 2. Collector-Emitter Saturation Voltage vs Collector Current

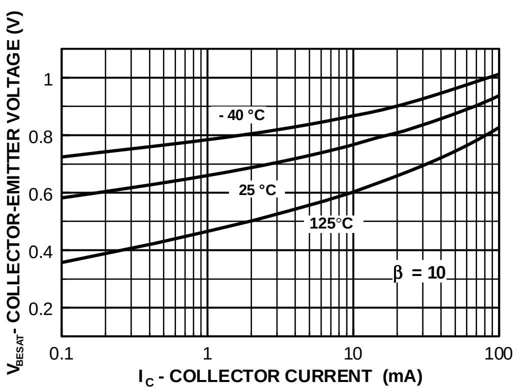

Figure 3. Base-Emitter Saturation Voltage vs Collector Curent

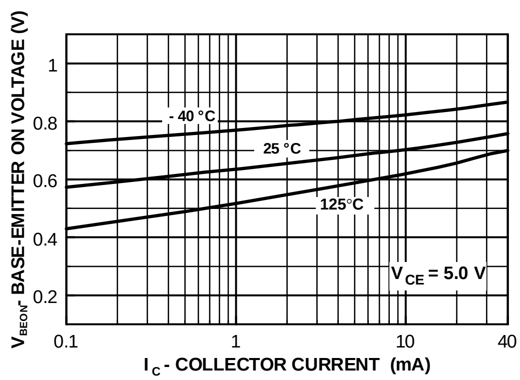

Figure 4. Base-Emitter ON Voltage vs Collector Current

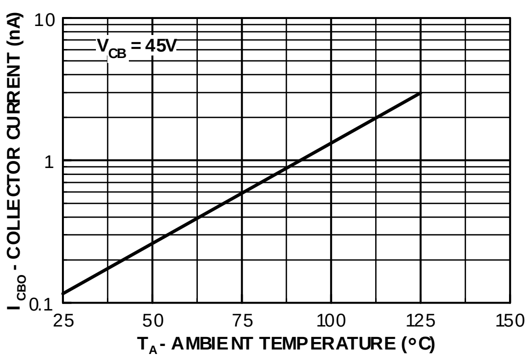

Figure 5. Collector-Cutoff Current vs Ambient Temperature

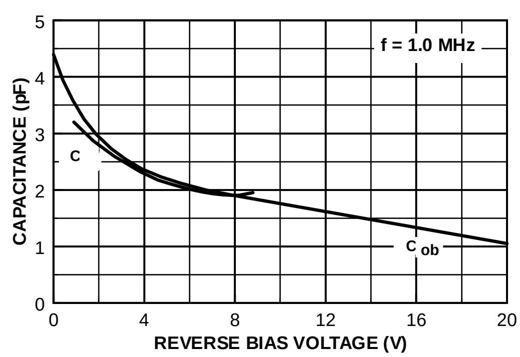

Figure 6. Input and Output Capacitance vs Reverse Bias Voltage

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