

June 2007

BC183

NPN General Purpose Amplifer



Absolute Maximum Ratings $T_C=25^{\circ}C$ 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 $T_C=25^{\circ}C$ 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	$V_{CE} = 5V, I_{C} = 10\mu A$ $V_{CE} = 5V, I_{C} = 100m A$	40 80		
V _{CE} (sat)	Collector-Emitter Saturation Voltage	$I_C = 10 \text{mA}, I_B = 0.5 \text{mA}$ $I_C = 100 \text{mA}, I_B = 5.0 \text{mA}$		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
Сов	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 125 900 f = 1KHz		900	
NF	Noise Figure	$V_{CE} = 5V$, $I_{C} = 200$ mA $R_{G} = 2$ K Ω , $f = 1$ KHz		10	dB

Typical Characteristics

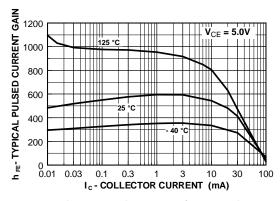
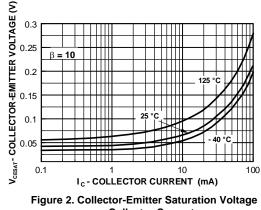


Figure 1. Typical Pulsed Current Gain vs Collector Current



vs Collector Current

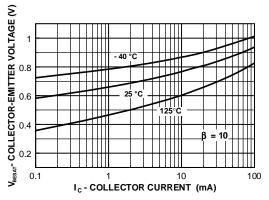


Figure 3. Base-Emitter Saturation Voltage vs Collector Curent

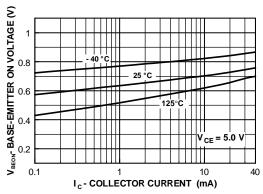


Figure 4. Base-Emitter ON Voltage vs Collector Current

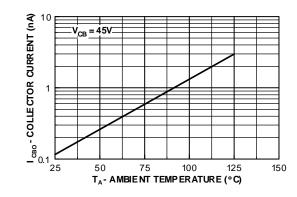


Figure 5. Collector-Cutoff Current vs Ambient Temperature

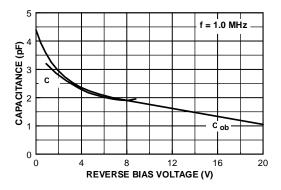


Figure 6. Input and Output Capacitance vs Reverse Bias Voltage





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