

# BC183

## NPN General Purpose Amplifier



### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ( $T_a=25^\circ\text{C}$ )	350	mW
$T_{STG}, T_J$	Storage Junction Temperature Range	- 55 ~ 150	$^\circ\text{C}$

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

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

# Typical Characteristics

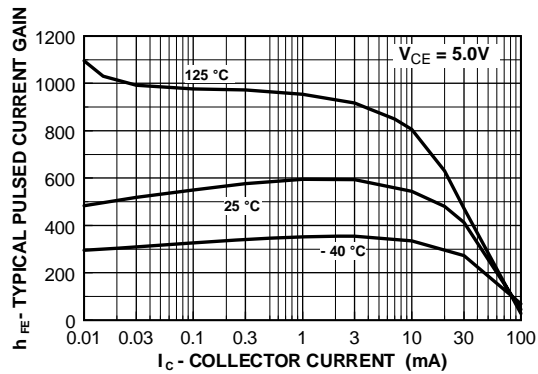


Figure 1. Typical Pulsed Current Gain vs Collector Current

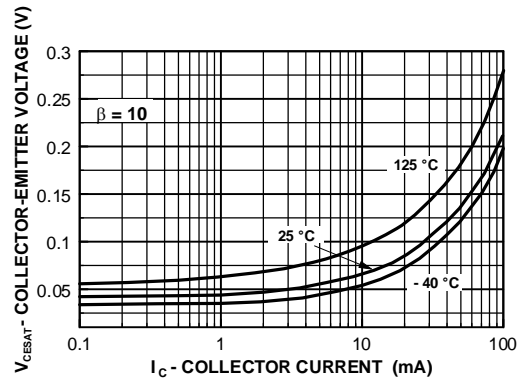


Figure 2. Collector-Emitter Saturation Voltage vs Collector Current

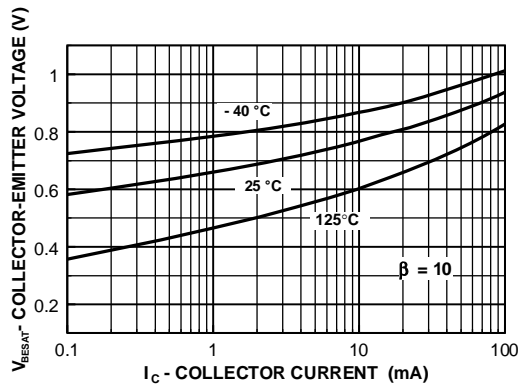


Figure 3. Base-Emitter Saturation Voltage vs Collector Current

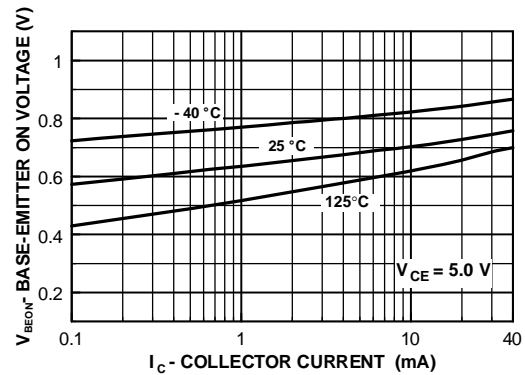


Figure 4. Base-Emitter ON Voltage vs Collector Current

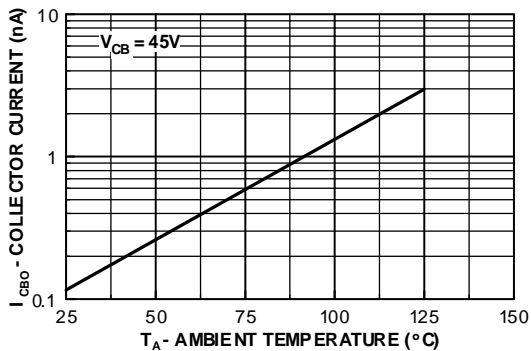


Figure 5. Collector-Cutoff Current vs Ambient Temperature

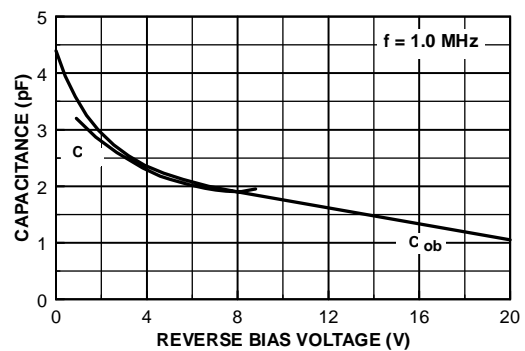


Figure 6. Input and Output Capacitance vs Reverse Bias Voltage

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