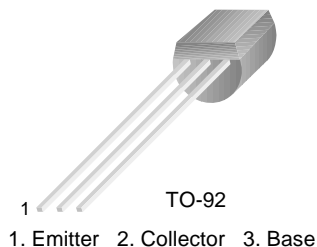


# BC183LC

BC183LC

**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
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	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	$V_{EB} = 3\text{V}$			15	nA
$h_{FE}$	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $V_{CE} = 5\text{V}, I_C = 100\text{mA}$	40 100 80		850	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 5\text{mA}$			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	$V_{CE} = 10\text{V}, f = 1\text{MHz}$			5	pF
$f_T$	Current gain Bandwidth Product	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	150			MHz
$h_{fe}$	Small Signal Current Gain	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $f = 1\text{KHz}$	450		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

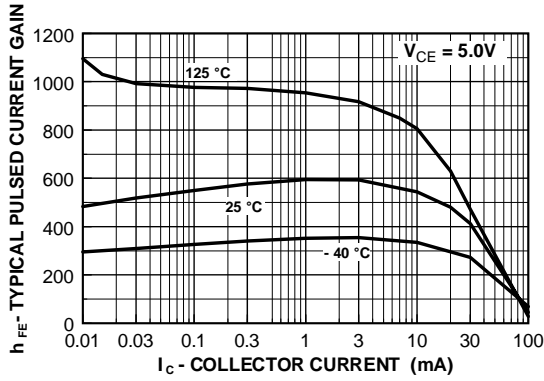


Figure 1. Typical Pulsed Current Gain vs Collector Current

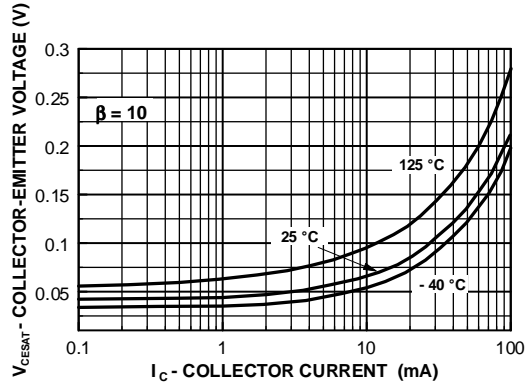


Figure 2. Collector-Emitter Saturation Voltage vs Collector Current

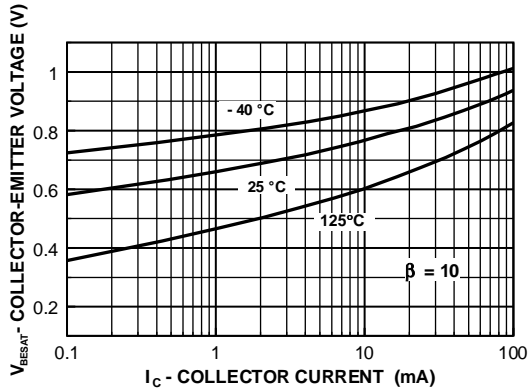


Figure 3. Base-Emitter Saturation Voltage vs Collector Current

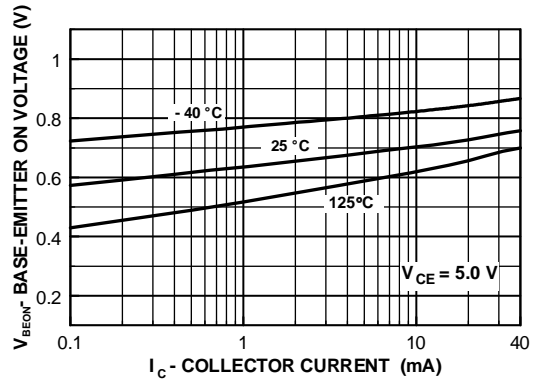


Figure 4. Base-Emitter ON Voltage vs Collector Current

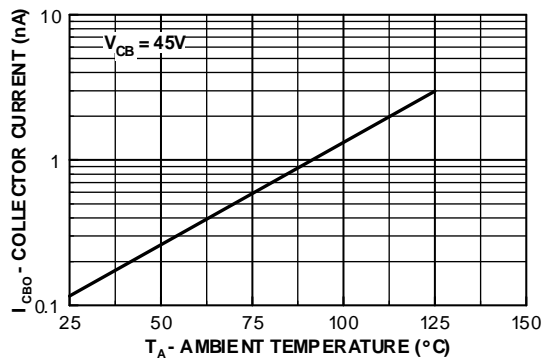


Figure 5. Collector-Cutoff Current vs Ambient Temperature

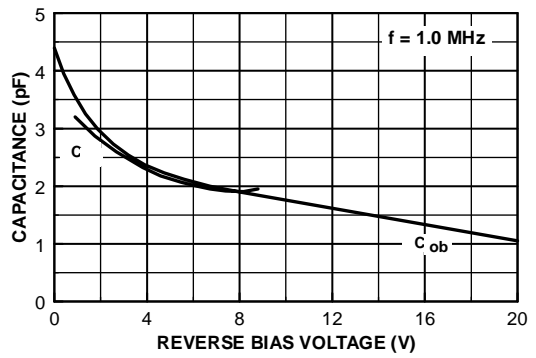


Figure 6. Input and Output Capacitance vs Reverse Bias Voltage

Typical Characteristics (Continued)

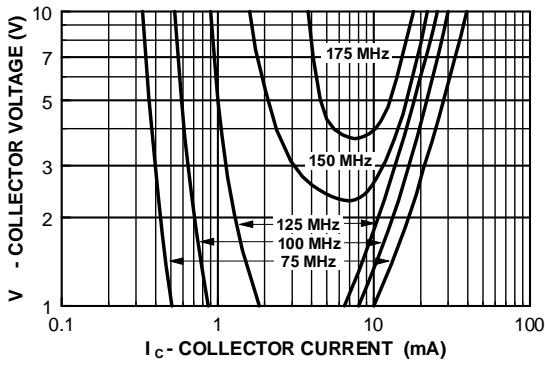


Figure 7. Contours of Constant Gain Bandwidth Product ( $f_T$ )

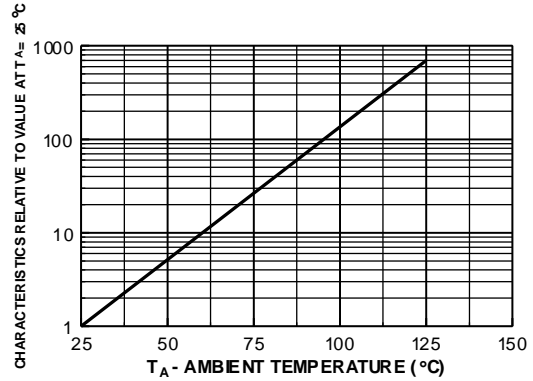


Figure 8. Normalized Collector-Cutoff Current vs Ambient Temperature

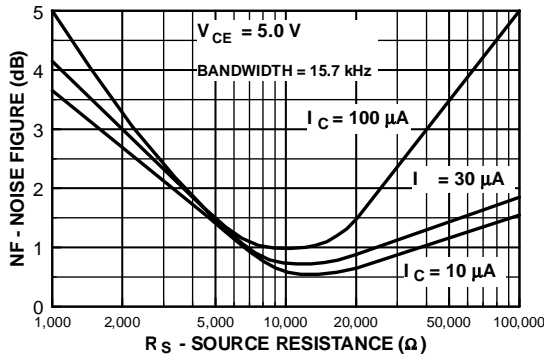


Figure 9. Wideband Noise Frequency vs Source Resistance

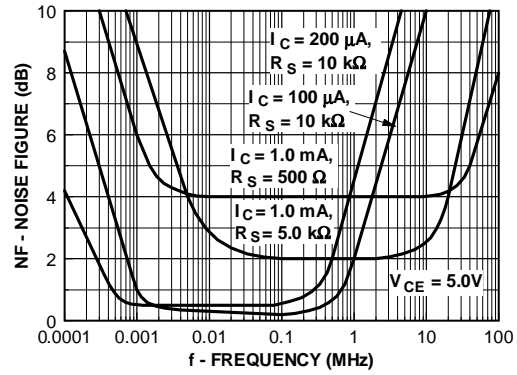


Figure 10. Noise Figure vs Frequency

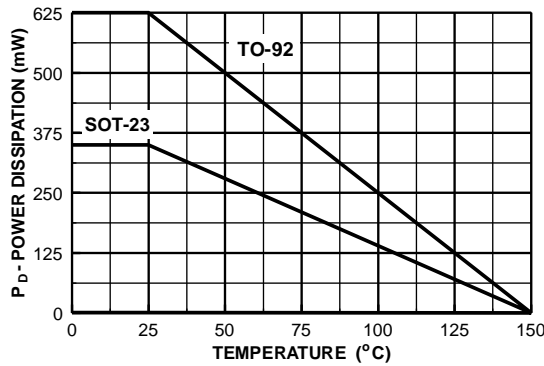


Figure 11. Collector-Cutoff Current vs Ambient Temperature

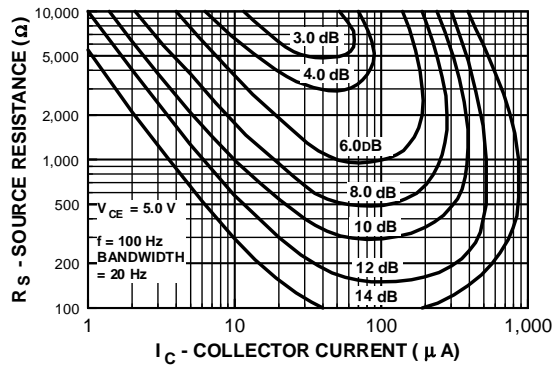


Figure 12. Contours of Constant Narrow Band Noise Figure

Typical Characteristics (Continued)

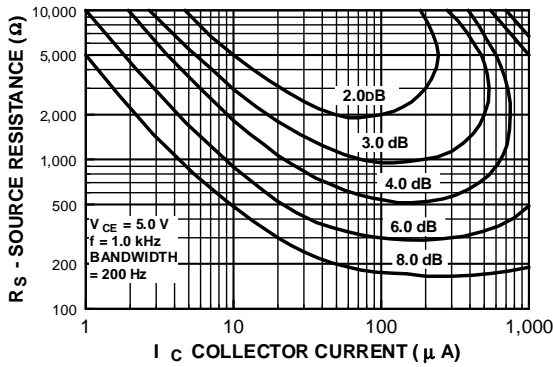


Figure 13. Contours of Constant Narrow Band Noise Figure

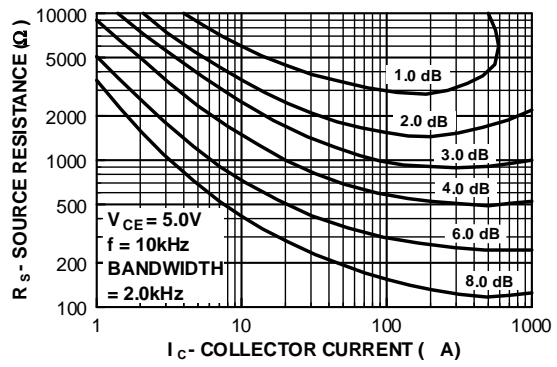


Figure 14. Contours of Constant Narrow Band Noise Figure

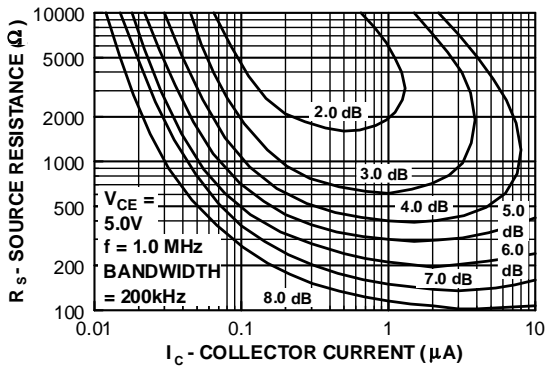


Figure 15. Contours of Constant Narrow Band Noise Figure

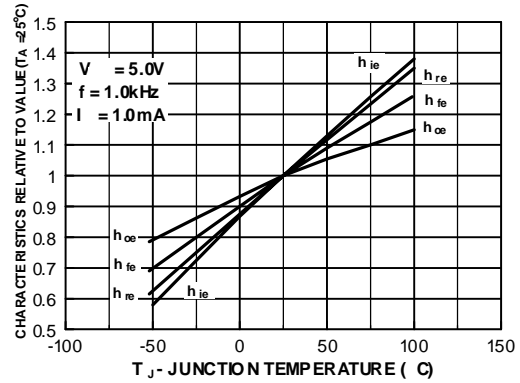


Figure 16. Typical Common Emitter Characteristics

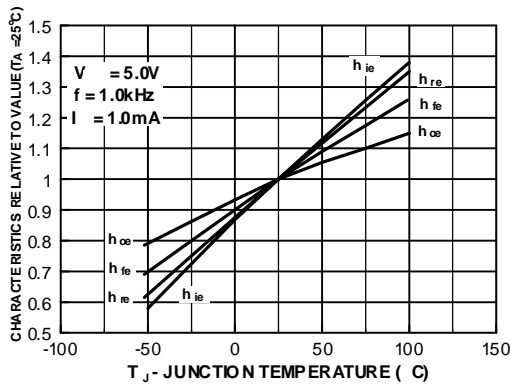


Figure 17. Typical Common Emitter Characteristics

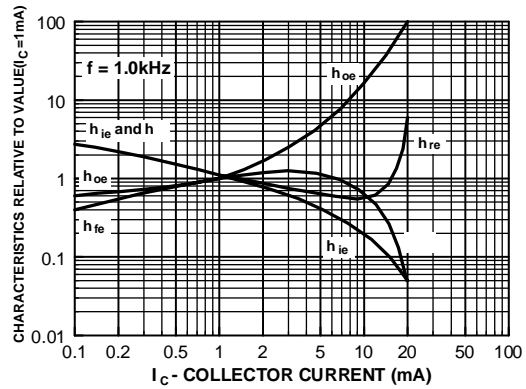
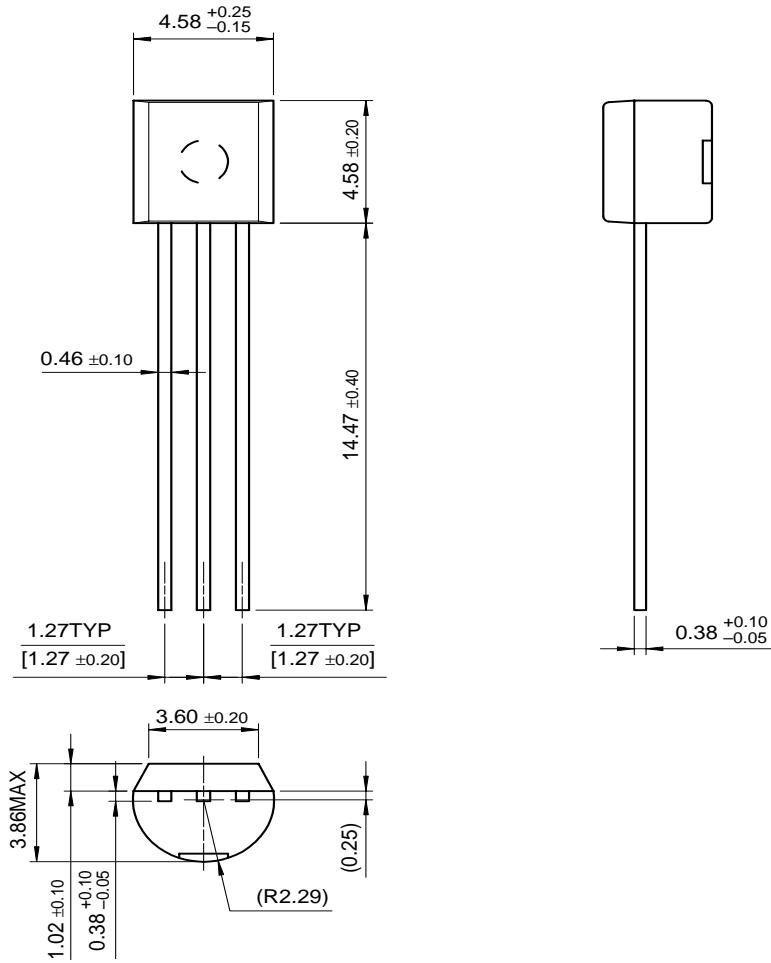


Figure 18. Typical Common Emitter Characteristics

# Package Dimensions

## TO-92



Dimensions in Millimeters

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Bottomless <sup>™</sup>	FAST <sup>®</sup>	LittleFET <sup>™</sup>	Power247 <sup>™</sup>	SuperSOT <sup>™</sup> -3
CoolFET <sup>™</sup>	FAST <sup>™</sup>	MicroFET <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
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