

# BC182

## NPN General Purpose Amplifier

- This device is designed for general purpose amplifier application at collector currents to 100mA.
- Sourced from process 10.



## Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current - Continuous	100	mA
$T_J, T_{STG}$	Storage Junction Temperature Range	- 55 ~ 150	$^\circ\text{C}$

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

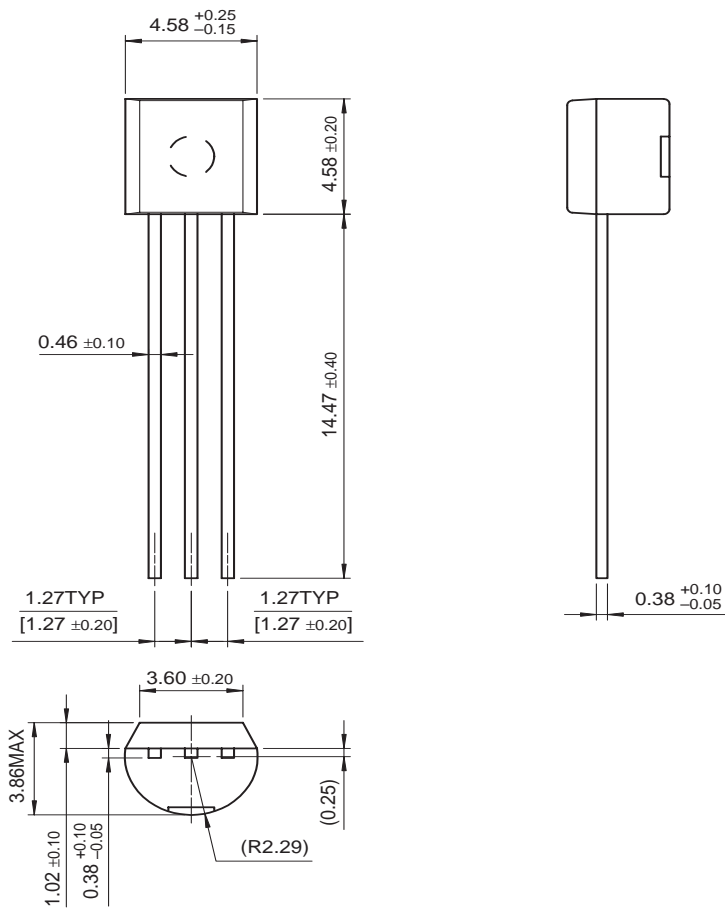
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
<b>Off Characteristics</b>						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 2\text{mA}, I_B = 0$	50			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}, I_E = 0$	60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}, I_C = 0$	6			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 50\text{V}, V_{BE} = 0$			15	nA
$I_{EBO}$	Emitter-Base Leakage Current	$V_{EB} = 4\text{V}, I_E = 0$			15	nA
<b>On Characteristics</b>						
$h_{FE}$	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $V_{CE} = 5\text{V}, I_C = 100\text{mA}$	40 120 80		500	
$V_{CE(sat)}$	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
<b>Dynamic Characteristics</b>						
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 5\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$	150			MHz
$C_{ob}$	Output Capacitance	$V_{CE} = 10\text{V}, I_C = 0, f = 1\text{MHz}$			5	pF
$h_{fe}$	Small Signal Current Gain	$V_{CE} = 5\text{V}, I_C = 2\text{mA}, f = 1\text{KHz}$	125		500	
NF	Noise Figure	$V_{CE} = 5\text{V}, I_C = 0.2\text{mA}$ $R_S = 2\text{K}\Omega, f = 1\text{KHz}$			10	dB

**Thermal Characteristics**  $T_A=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation @ $T_A=25^\circ\text{C}$	350	mW
	Derate above $25^\circ\text{C}$	2.8	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C}/\text{W}$

# Package Dimensions

## TO-92



Dimensions in Millimeters

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