



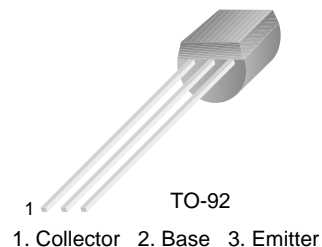
# THE DATASHEET OF BC184



# BC184

## Silicon NPN Small Signal Transistor

- $BV_{CEO} = 30V$  (Min.)
- $h_{FE} = 130$  (Min.) @  $V_{CE} = 5.0V$ ,  $I_C = 100mA$



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

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{CBO}$	Collector-Base Voltage	45	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	100	mA
$T_J, T_{STG}$	Operating and Storage Junction Temperature Range	-55 ~ +150	$^\circ C$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**NOTES:**

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics $T_a=25^\circ C$ unless otherwise noted

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

\*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06".

**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
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 4\text{V}$			15	nA
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 30\text{V}$			15	nA
$h_{FE}$	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}, I_C = 100\text{mA}$	100 130			
$V_{CE}(\text{sat})$	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
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = 100\text{mA}, I_B = 5\text{mA}$			1.2	V
$V_{BE}(\text{on})$	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	$V_{CE} = 5\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$	150			MHz



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2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. These ratings are based on a maximum junction temperature of 150degrees C.



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