

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			
$V_{CE(sat)}$	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	$V_{CE} = 5\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$	150			MHz

Notes:

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