



September 2007

# BC318C

## PNP Epitaxial Silicon Transistor

- This device is designed for general purpose amplifier application at collector currents to 800m.
- Sourced from process 38.



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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	20	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	$^\circ\text{C}$

\* 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 $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	625 5.0	mW mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^\circ\text{C}/\text{W}$

\*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 Breakdown Voltage	$I_C = 10\mu\text{A}$	30			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}$	20			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100\mu\text{A}$	5			V
$BV_{CES}$	Collector-Emitter Breakdown Voltage	$I_C = 100\mu\text{A}$	30			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 20\text{V}$ $T = 25^\circ\text{C}$ $T = 100^\circ\text{C}$			30 15	nA $\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}, I_C = 2\text{mA}$	100 420		800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 5\text{mA}$			0.2 0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 5\text{V}, I_C = 2\text{m}$ $V_{CE} = 5\text{V}, I_C = 10\text{mA}$	0.57		0.72 0.77	V
$C_{cb}$	Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			4	pF

**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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