

# BC182L

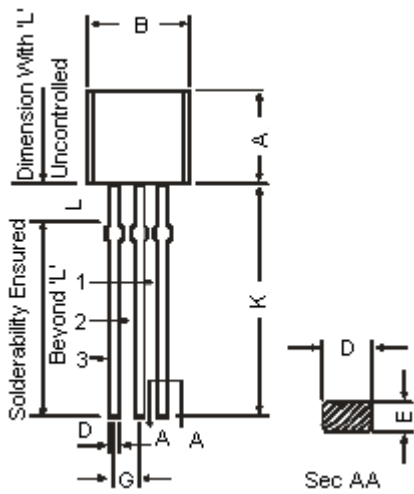
## General Purpose Transistors



### Description:

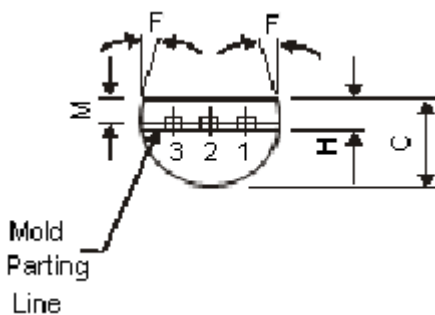
- General Purpose NPN Silicon Planar Epitaxial Amplifier Transistors.

### TO-92 Plastic Package



Dimensions	Minimum	Maximum
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5°	
G	1.14	1.40
H	1.20	
K	12.70	-
L	1.982	2.082
M	1.03	1.20

Dimensions : Millimetres



### Pin Configuration:

1. Base
2. Collector
3. Emitter

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ unless specified otherwise)

Parameter	Symbol	Value	Units
Collector-Emitter Voltage	$V_{CEO}$	50	V
Collector-Base Voltage	$V_{CBO}$	60	
Emitter-Base Voltage	$V_{EBO}$	6.0	
Collector Current Continuous	$I_C$	100	mA
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate Above $25^\circ\text{C}$	$P_D$	350	mW
Total Device Dissipation at $T_c = 25^\circ\text{C}$ Derate Above $25^\circ\text{C}$		2.8	$\text{mW}/^\circ\text{C}$
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	- 55 to + 150	
<b>Thermal Resistance</b>			
Junction to Ambient	$R_{th(j-a)}$	375	$^\circ\text{C}/\text{W}$
Junction to Case	$R_{th(j-c)}$	125	

### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless specified otherwise)

Parameter	Symbol	Test Condition	Minimum	Typical	Maximum	Units
Collector-Emitter Voltage	$V_{CEO}$	$I_C = 2\text{mA}, I_B = 0$	50	-	-	V
Collector-Base Voltage	$V_{CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	60	-	-	
Emitter-Base Voltage	$V_{EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6	-	-	
Collector Cut off Current	$I_{CBO}$	$V_{CB} = 50\text{V}, I_E = 0$	-	-	15	nA
Emitter-Base Leakage Current	$I_{EBO}$	$V_{EB} = 4.0\text{V}, I_C = 0$	-	-	-	
DC Current Gain	$h_{FE}$	$I_C = 2\text{mA}$ <b>BC182L</b>	125	-	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $*I_C = 100\text{mA}, I_B = 5\text{mA}$	-	-	0.25 0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$*I_C = 100\text{mA}, I_B = 5\text{mA}$	-	-	1.2	
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C = 100\mu\text{A}, V_{CE} = 5\text{V}$ $I_C = 2\text{mA}, V_{CE} = 5\text{V}$ $*I_C = 100\text{mA}, V_{CE} = 5\text{V}$	0.55	0.5 0.83	0.7	
<b>Dynamic Characteristics</b>						
Current-Gain Bandwidth Product	$f_T$	$I_C = 0.5\text{mA}, V_{CE} = 3\text{V}, f = 100\text{MHz}$ $I_C = 10\text{mA}, V_{CE} = 5\text{V}, f = 100\text{MHz}$	150	100	-	MHz
Common Base Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_C = 0, f = 1\text{MHz}$	-	-	5.0	pF

\*Pulse Condition : Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

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### Electrical Characteristics Continued ( $T_a = 25^\circ\text{C}$ unless specified otherwise)

Parameter	Symbol	Test Condition	Minimum	Typical	Maximum	Units
<b>Dynamic Characteristics</b>						
Common Base Input Capacitance	$C_{ib}$	$V_{BE} = 0.5\text{V}, I_C = 0, f = 1\text{MHz}$	-	8.0	-	pF
Small-Signal Current Gain	$h_{fe}$	$I_C = 2\text{mA}, V_{CE} = 5\text{V}, f = 1\text{KHz}$	125	-	500	-
Noise Figure	NF	$V_{CE} = 5.0\text{V}, I_C = 0.2\text{mA}, R_s = 2.0\text{K}\Omega,$ $f = 1\text{kHz}, F = 200\text{Hz}$	-	-	10	dB

### Specifications

$V_{CEO}$ (V)	$V_{CBO}$ Maximum (V)	$I_C$ (A)	$h_{FE}$ Minimum at $I_C = 2\text{mA}$	$f_T$ Minimum (MHz)	$P_{tot}$ (mW)	Package	Part Number
50	60	0.1	120	150	350	TO-92	BC182L



### Notes:

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