

BC182L

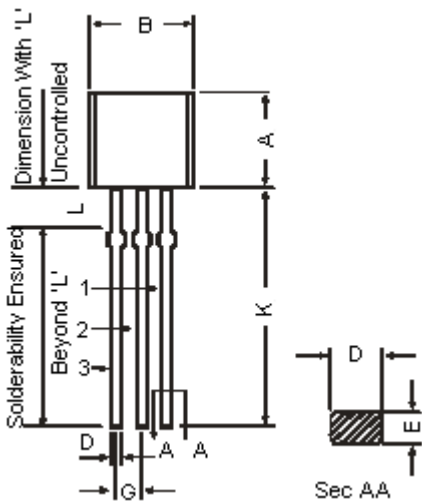
General Purpose Transistors



General Description:

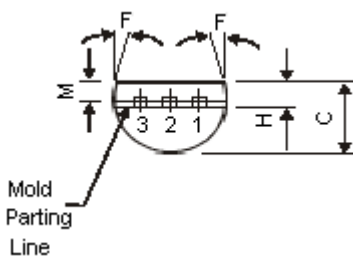
- General Purpose NPN Silicon Planar Epitaxial Amplifiers Transistors.

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°C	P_D	350	mW
Total Device Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C		2.8	mW/ $^\circ\text{C}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	
Thermal Resistance			
Junction to Ambient	$R_{th(j-a)}$	375	$^\circ\text{C/W}$
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 Cutoff Current	I_{CBO}	$V_{CB} = 50\text{V}, I_E = 0$	-	-	15	nA
Emitter-Base Leakage Current	I_{EBO}	$V_{EB} = 4.0\text{V}, I_C = 0$	-	-	15	
DC Current Gain	h_{FE}	$I_C = 2\text{mA}$ BC182L	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	
Dynamic Characteristics						
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 $\leq 2\%$.

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

Parameter	Symbol	Test Condition	Minimum	Typical	Maximum	Units
Dynamic Characteristics						
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