

BC182L

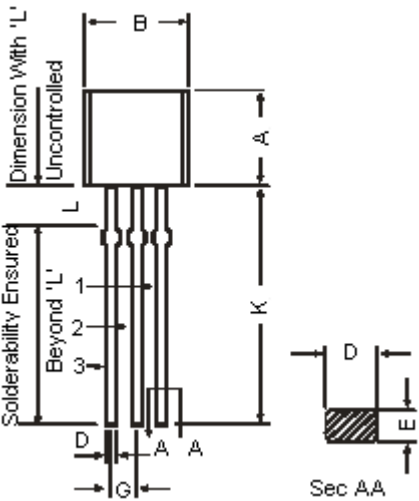
General Purpose Transistors



General Description:

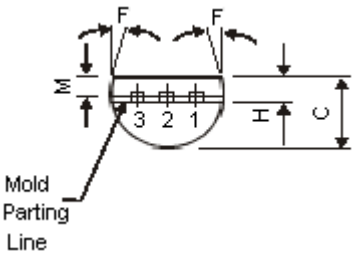
- General Purpose NPN Silicon Planar Epitaxial Amplifiers Transistors.

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°C Derate Above 25°C	P _D	350 2.8	mW mW/°C
Total Device Dissipation at T _C = 25°C Derate Above 25°C		1.0 8	W mW/°C
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	
Thermal Resistance			
Junction to Ambient	R _{th(j-a)}	375	°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 = 2mA, I _B = 0	50	-	-	V
Collector-Base Voltage	V _{CBO}	I _C = 10μA, I _E = 0	60	-	-	
Emitter-Base Voltage	V _{EBO}	I _E = 100μA, I _C = 0	6	-	-	
Collector Cutoff Current	I _{CBO}	V _{CB} = 50V, I _E = 0	-	-	15	nA
Emitter-Base Leakage Current	I _{EBO}	V _{EB} = 4.0V, I _C = 0	-	-	15	
DC Current Gain	h _{FE}	I _C = 2mA BC182L	125	-	-	-
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = 10mA, I _B = 0.5mA *I _C = 100mA, I _B = 5mA	-	-	0.25 0.6	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	*I _C = 100mA, I _B = 5mA	-	-	1.2	
Base-Emitter On Voltage	V _{BE(on)}	I _C = 100μA, V _{CE} = 5V I _C = 2mA, V _{CE} = 5V *I _C = 100mA, V _{CE} = 5V	0.55	0.5 0.83	0.7	
Dynamic Characteristics						
Current-Gain Bandwidth Product	f _T	I _C = 0.5mA, V _{CE} = 3V, f = 100MHz I _C = 10mA, V _{CE} = 5V, f = 100MHz	150	100	-	MHz
Common Base Output Capacitance	C _{ob}	V _{CB} = 10V, I _C = 0, f = 1MHz	-	-	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
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

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Notes:

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