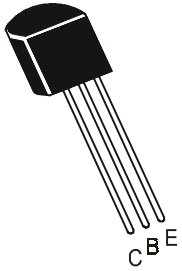


NPN SILICON PLANAR EPITAXIAL TRANSISTORS

**BC184
BC184B
BC184C**



**TO-92
Plastic Package**

Amplifier Transistors

ABSOLUTE MAXIMUM RATINGS(Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector -Emitter Voltage	V_{CEO}	30	V
Collector -Base Voltage	V_{CBO}	45	V
Emitter -Base Voltage	V_{EBO}	6	V
Collector Current Continuous	I_C	100	mA
Power Dissipation @ Ta=25°C	P_D	350	mW
Derate Above 25°C		2.8	mW/°C
Power Dissipation @ Tc=25°C	P_D	1	W
Derate Above 25°C		8	mW/°C
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	°C

THERMAL RESISTANCE

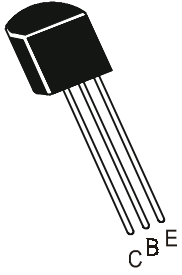
Junction to ambient	$R_{th(j-a)}$	357	°C/W
Junction to case	$R_{th(j-c)}$	125	°C/W

ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Specified Otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector -Emitter Voltage	V_{CEO}	$I_C=2mA, I_B=0$	30			V
Collector -Base Voltage	V_{CBO}	$I_C=10\mu A, I_E=0$	45			V
Emitter-Base Voltage	V_{EBO}	$I_E=100\mu A, I_C=0$	6			V
Collector-Cut off Current	I_{CBO}	$V_{CB}=30V, I_E=0$		0.2	15	nA
Emitter-Cut off Current	I_{EBO}	$V_{EB}=4V, I_C=0$			15	nA
DC Current Gain	h_{FE}	$I_C=10\mu A, V_{CE}=5V$	100			
		BC184 $I_C=2mA, V_{CE}=5V$	240		800	
		$I_C=100mA^*, V_{CE}=5V$	130			
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C=10mA, I_B=0.5mA$		0.07	0.25	V
		$I_C=100mA, I_B=5.0mA^*$		0.2	0.6	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$	$I_C=100mA, I_B=5mA^*$			1.2	V
Base Emitter On Voltage	$V_{BE(ON)}$	$I_C=2mA, V_{CE}=5V$	0.55	0.62	0.7	V
		$I_C=100\mu A, V_{CE}=5V$		0.5		V
		$I_C=100mA, V_{CE}=5V^*$		0.83		V

NPN SILICON PLANAR EPITAXIAL TRANSISTORS

BC184
BC184B
BC184C



TO-92
Plastic Package

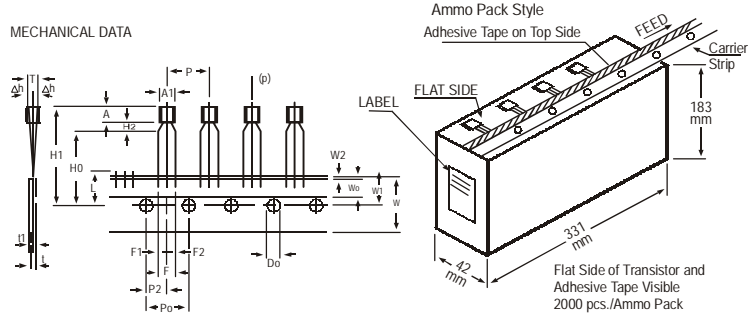
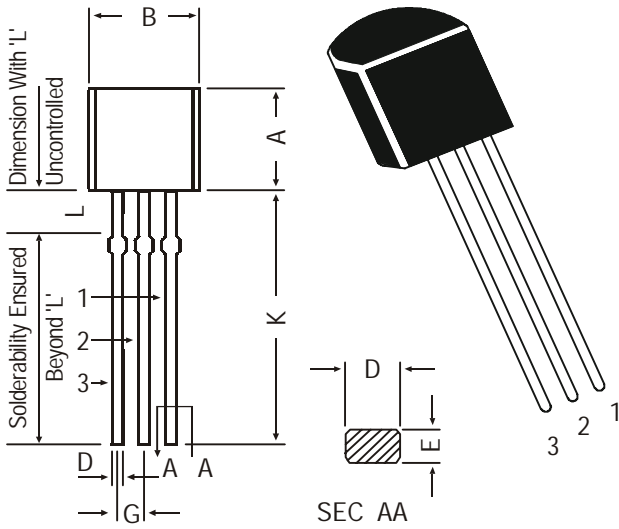
ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Specified Otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DYNAMIC CHARACTERISTICS						
Transition Frequency	f_T	$I_C=0.5\text{mA}, V_{CE}=3\text{V}$ $f=100\text{MHz}$		140		MHz
		$I_C=10\text{mA}, V_{CE}=5\text{V}$ $f=100\text{MHz}$	150	280		MHz
Out-Put Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_C=0$ $f=1\text{MHz}$			5	pF
Input Capacitance	C_{ib}	$V_{BE}=0.5\text{V}, I_C=0$ $f=1\text{MHz}$		8		pF
Noise Figure	NF	$I_C=0.2\text{mA}, V_{CE}=5\text{V}$ $R_s=2\text{k}\Omega, f=130\text{Hz to } 15\text{kHz}$		2	4	dB
		$I_C=0.2\text{mA}, V_{CE}=5\text{V}$ $R_s=2\text{k}\Omega, f=1\text{kHz}$ $F=200\text{Hz}$		2	4	dB
Small Signal Current Gain	BC184	$ h_{fe} $	$I_C=2\text{mA}, V_{CE}=5\text{V}$ $f=1\text{kHz}$	240		900
				240		500
				450		900
BC184B						
BC184C						
Noise Figure	NF	$I_C=0.2\text{mA}, V_{CE}=5\text{V}$ $R_s=2\text{W}, f=1\text{kHz}$		2	4	dB

*Pulse Condition: $\approx 300\mu\text{s}$, Duty Cycle=2%

TO-92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT	Δh		0	1		AT TOP OF BODY
TAPE WIDTH	W		18		±0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		±0.2	
HOLE POSITION	W1		9		+0.7 -0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		±0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		±0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		±0.2	
TOTAL TAPE THICKNESS	t			1.2		1) 0.3 - 0.6
LEAD - TO - LEAD DISTANCE F1,	F2		2.54		+0.4 -0.1	
CLINCH HEIGHT	H2			3		
PULL - OUT FORCE	(P)		6N			

NOTES

1. MAXIMUM ALIGNMENT DEVIATION BETWEEN LEADS NOT TO BE GREATER THAN 0.2 mm.
2. MAXIMUM NON-CUMULATIVE VARIATION BETWEEN TAPE FEED HOLES SHALL NOT EXCEED 1 mm IN 20 PITCHES.
3. HOLDDOWN TAPE NOT TO EXCEED BEYOND THE EDGE(S) OF CARRIER TAPE AND THERE SHALL BE NO EXPOSURE OF ADHESIVE.
4. NO MORE THAN 3 CONSECUTIVE MISSING COMPONENTS ARE PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES ARE REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.

DIM	MIN.	MAX.
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 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—
L	1.982	2.082

All dimensions in mm.

- PIN CONFIGURATION**
1. EMITTER
 2. BASE
 3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2K	17" x 15" x 13.5"	32K	12.5 kgs

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of

Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290

e-mail sales@cdil.com www.cdil.com