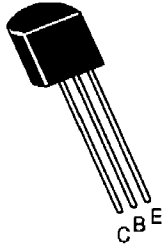


NPN SILICON PLANAR EPITAXIAL TRANSISTORS

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 =10μA, I _E =0	45			V
Emitter-Base Voltage	V _{EBO}	I _E =100μA, I _C =0	6			V
Collector-Cut off Current	I _{CB0}	V _{CB} =30V, I _E =0		0.2	15	nA
Emitter-Cut off Current	I _{EB0}	V _{EB} =4V, I _C =0			15	nA
DC Current Gain	h _{FE}	I _C =10μA, 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 =100μA, V _{CE} =5V		0.5		V
		I _C =100mA, V _{CE} =5V*		0.83		V

NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

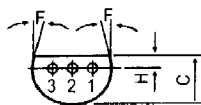
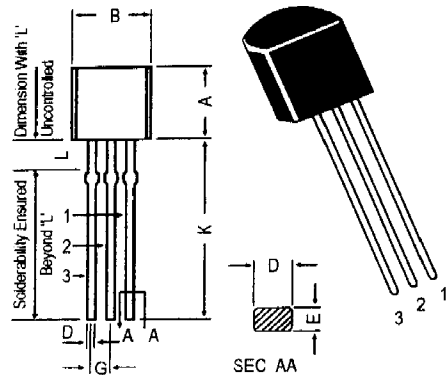


Quality Semi-Conductors

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

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

*Pulse Condition: =300s, Duty Cycle=2%



PIN CONFIGURATION
 1. EMITTER
 2. BASE
 3. COLLECTOR

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.

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	4.3		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P	12.7			±1	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE PITCH	Po	12.7			±0.3	
FEED HOLE CENTRE TO COMPONENT CENTRE	F2	6.35			±0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F	5.08			+0.6 -0.2	AT TOP OF BODY
COMPONENT ALIGNMENT	h	0	1			
TAPE WIDTH	W	16			±0.5	TO BE MEASURED AT BOTTOM OF CLINCH
HOLD-DOWN TAPE WIDTH	W0	6			±0.2	
HOLE POSITION	W1	9			+0.7 -0.5	
HOLD-DOWN TAPE POSITION	W2	0.5			±0.2	±1.0 3-0.6
LEAD WIRE CLINCH HEIGHT	H0	16			±0.5	
COMPONENT HEIGHT	H1		23.25			
LENGTH OF SHIPPED LEADS	L		11.0			
FEED HOLE DIAMETER	Do	4			±0.2	±1.0 3-0.6
TOTAL TAPE THICKNESS	t	1.2				
LEAD - TO - LEAD DISTANCE ¹	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. HOLD-DOWN 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