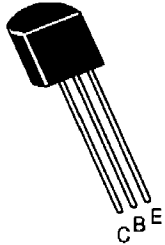


NPN SILICON PLANAR EPITAXIAL TRANSISTORS

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.

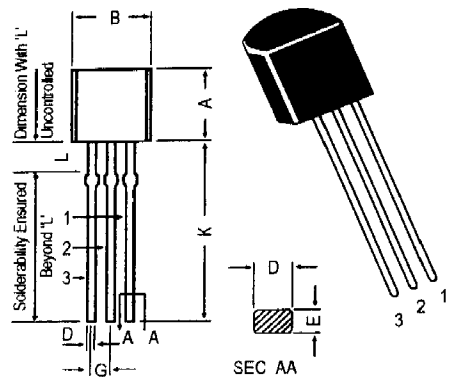


Quality Semi-Conductors

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	
	BC184B			240	500	
	BC184C			450	900	
Noise Figure	NF	$I_C=0.2mA, V_{CE}=5V$	$R_s=2W, f=1KHz$	2	4	dB

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



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

PIN CONFIGURATION
 1. EMITTER
 2. BASE
 3. COLLECTOR

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 1.0mm/20 PITCH
FEED HOLE PITCH	Po	12.7			±0.3	
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	AT TOP OF BODY
COMPONENT ALIGNMENT	h	0	1			
TAPE WIDTH	W	16			±0.5	HOLD-DOWN TAPE POSITION
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	LEAD WIRE CLINCH HEIGHT
LEAD WIRE CLINCH HEIGHT	H0	16			±0.5	
COMPONENT HEIGHT	H1		23.25			LENGTH OF SHIPPED LEADS
LENGTH OF SHIPPED LEADS	L		11.0			
FEED HOLE DIAMETER	Do	4			±0.2	TOTAL TAPE THICKNESS
TOTAL TAPE THICKNESS	t	1.2			±0.1	
LEAD - TO - LEAD DISTANCE ¹	F2	2.54			+0.4 -0.1	CLINCH HEIGHT
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