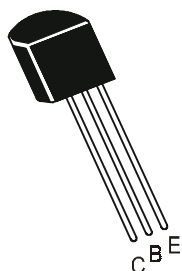


## NPN SILICON PLANAR EPITAXIAL AMPLIFIER TRANSISTORS

**BC183, BC183A,  
BC183B, BC183C**



**TO-92  
Plastic Package**

### 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

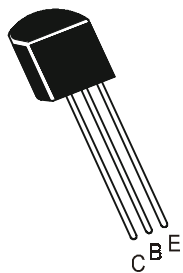
Junction to ambient	$R_{th(j-a)}$	357	°C/W
Junction to case	$R_{th(j-c)}$	125	°C/W

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector -Emitter Voltage	$BV_{CEO}$	$I_C=2mA, I_B=0$	30			V
Collector -Base Voltage	$BV_{CBO}$	$I_C=10\mu A, I_E=0$	45			V
Emitter-Base Voltage	$BV_{EBO}$	$I_E=100\mu A, I_C=0$	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	$h_{FE}$	$I_C=10\mu A, V_{CE}=5V$	40			
<b>BC183</b>		$I_C=2mA, V_{CE}=5V$	120		800	
		$I_C=100mA, V_{CE}=5V^*$	80			

# NPN SILICON PLANAR EPITAXIAL AMPLIFIER TRANSISTORS

BC183, BC183A,  
BC183B, BC183C



TO-92  
Plastic Package

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
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
		$I_C=100mA, V_{CE}=5V^*$		0.83		V
		$I_C=100\mu A, V_{CE}=5V$		0.5		V

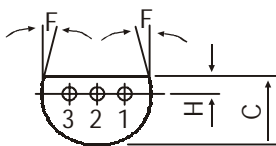
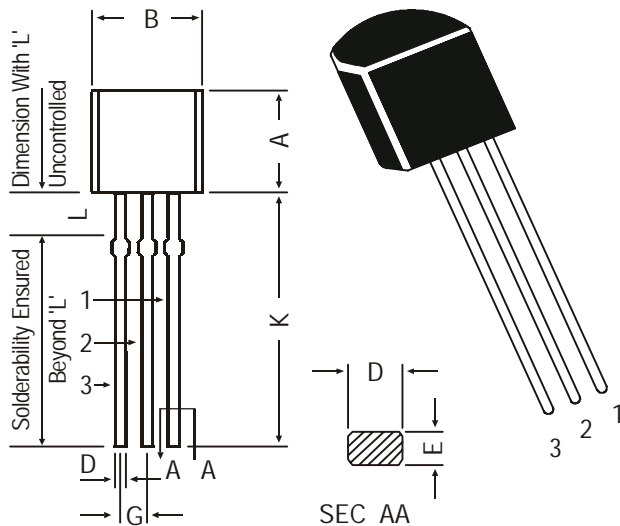
## ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
<b>DYNAMIC CHARACTERISTICS</b>						
Current Gain Bandwidth Product	$f_T$	$I_C=0.5mA, V_{CE}=3V$		120		MHz
		$f=100MHz$				
		$I_C=10mA, V_{CE}=5V$	150	240		MHz
		$f=100MHz$				
Out-Put Capacitance	$C_{ob}$	$V_{CB}=10V, I_C=0$			5.0	pF
Input Capacitance	$C_{ib}$	$f=1MHz$				
		$V_{EB}=0.5V, I_C=0$		8.0		pF
Small Signal Current Gain	$ h_{fe} $	$I_C=2mA, V_{CE}=5V$ $f = 1kHz$				
			125		900	
			125		260	
			240		500	
			450		900	
Noise Figure	NF	$I_C=0.2mA, V_{CE}=5V$		2.0	10	dB
		$R_s=2k\Omega, f=1kHz$ $F=200Hz$				

\*Pulse Condition:  $\approx 300\mu s$ , Duty Cycle=2.0%

## TO-92 Plastic Package

### TO-92 Transistors on Tape and Ammo Pack

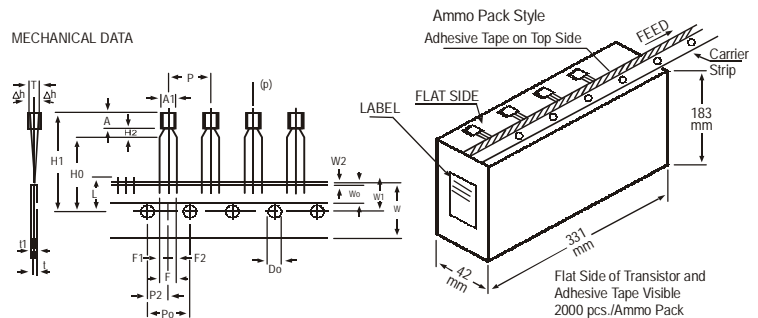


#### PIN CONFIGURATION

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	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	TO BE MEASURED AT BOTTOM OF CLINCH
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		t1 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.

## 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**

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