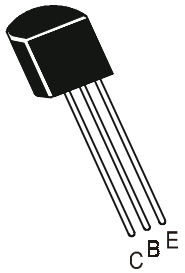
NPN SILICON PLANAR EPITAXIAL AMPLIFIER TRANSISTORS

BC183, BC183A, BC183B, BC183C



TO-92
Plastic Package

ABSOLUTE MAXIMUM RATINGS(Ta=25ºC unless specified otherwise)

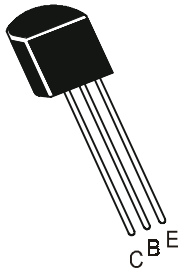
DESCRIPTION	SYMBOL	VALUE	UNITS
Collector -Emitter Voltage	V_{CEO}	30	V
Collector -Base Voltage	V_{CBO}	45	V
Emitter -Base Voltage	V_{EBO}	6	V
Collector Current Continuous	I_C	100	mA
Power Dissipation@ Ta=25ºC	P_D	350	mW
Derate Above 25ºC		2.8	mW/ºC
Power Dissipation@ Tc=25ºC	P_D	1	W
Derate Above 25ºC		8	mW/ºC
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	ºC
THERMAL RESISTANCE			
Junction to ambient	$R_{th(j-a)}$	357	ºC/W
Junction to case	$R_{th(j-c)}$	125	ºC/W

ELECTRICAL CHARACTERISTICS (Ta=25ºC 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=10µA.I_E=0	45			V
Emitter-Base Voltage		BV_{EBO}	I_E=100µA, 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=10µA,V_{CE}=5V	40			
	BC183		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=25ºC Unless Specified Otherwise)

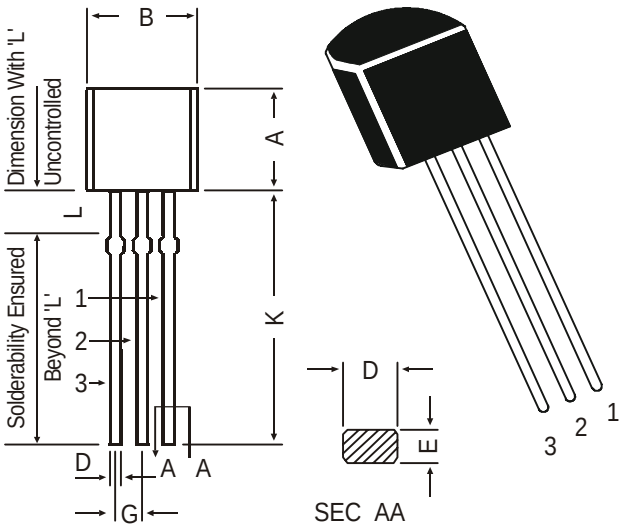
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	I_C=10mA,I_B=0.5mA		0.07	0.25	V
		I_C=100mA,I_B=5.0mA*		0.2	0.6	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$	I_C=100mA,I_B=5mA*			1.2	V
Base Emitter On Voltage	$V_{BE(On)}$	I_C=2mA,V_{CE}=5V	0.55	0.62	0.7	V
		I_C=100mA,V_{CE}=5V*		0.83		V
		I_C=100µA,V_{CE}=5V		0.5		V

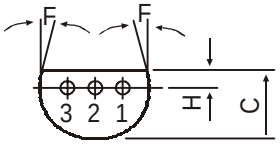
ELECTRICAL CHARACTERISTICS (Ta=25ºC Unless Otherwise Specified)

DESCRIPTION		SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DYNAMIC CHARACTERISTICS							
Current Gain Bandwidth Product		f_T	I_C=0.5mA, V_{CE}=3V f=100MHz		120		MHz
			I_C=10mA, V_{CE}=5V f=100MHz	150	240		MHz
Out-Put Capacitance		C_{ob}	V_{CB}=10V, I_C=0 f=1MHz			5.0	pF
Input Capacitance		C_{ib}	V_{EB}=0.5V, I_C=0 f=1MHz		8.0		pF
Small Signal Current Gain							
	BC183	$\lvert h_{fe} \rvert$	I_C=2mA, V_{CE}=5V f = 1kHz	125		900	
	BC183A			125		260	
	BC183B			240		500	
	BC183C			450		900	
Noise Figure		NF	I_C=0.2mA, V_{CE}=5V Rs=2kΩ, f=1kHZ F=200Hz		2.0	10	dB

***Pulse Condition: =300us, Duty Cycle=2.0%**

TO-92 Plastic Package



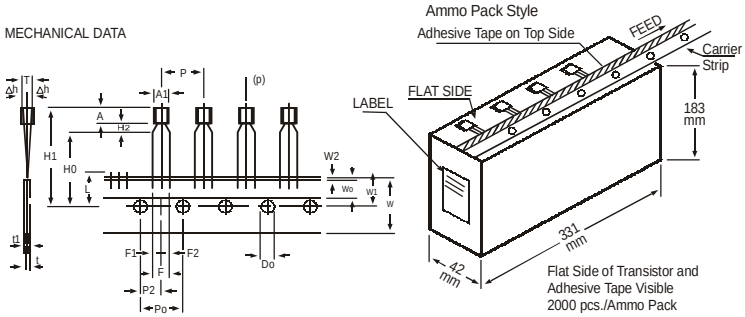


PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

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 diminsions in mm.

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	△h		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 DISTANCEF1,	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

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