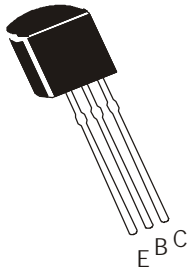


NPN SILICON PLANAR EPITAXIAL DARLINGTON TRANSISTORS

**BCX38A
BCX38B
BCX38C**

**TO-92
Plastic Package**



ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	V_{CEO}	60	V
Collector Base Voltage	V_{CBO}	80	V
Emitter Base Voltage	V_{EBO}	10	V
Peak Pulse Current	I_{CM}	2	A
Collector Current Continuous	I_C	800	mA
Power Dissipation @ $T_a=25^\circ\text{C}$	P_D	625	mW
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +200	$^\circ\text{C}$

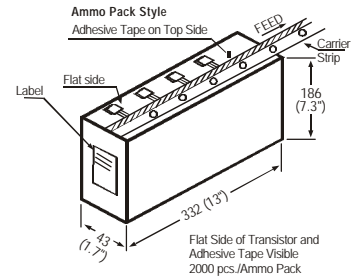
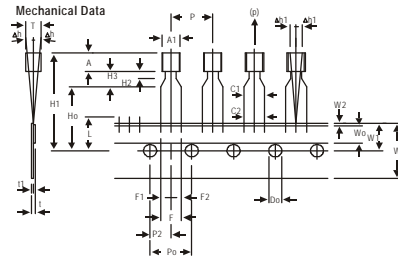
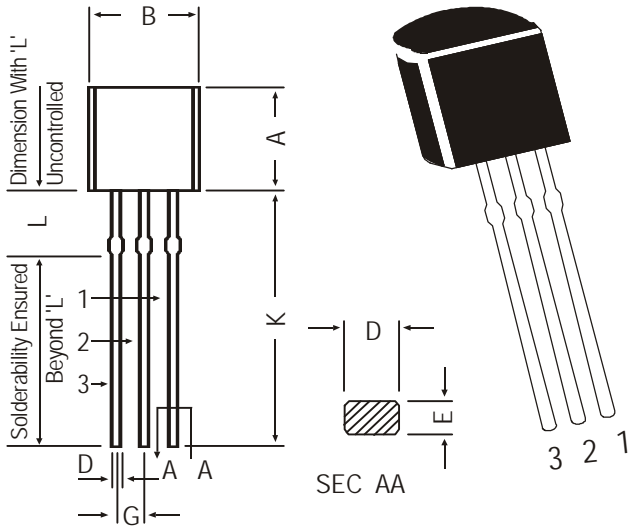
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C=10\text{mA}, I_B=0$	60		V
Collector Base Voltage	V_{CBO}	$I_C=10\mu\text{A}, I_E=0$	80		V
Emitter Base Voltage	V_{EBO}	$I_E=10\mu\text{A}, I_C=0$	10		V
Collector Cut off Current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$		100	nA
Emitter Cut off Current	I_{EBO}	$V_{EB}=8\text{V}, I_C=0$		100	nA
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=800\text{mA}, I_B=8\text{mA}$		1.25	V
Base Emitter On Voltage	$*V_{BE(on)}$	$I_C=800\text{mA}, V_{CE}=5\text{V}$		1.80	V
DC Current Gain	$*h_{FE}$	BCX38A			
		$I_C=100\text{mA}, V_{CE}=5\text{V}$	500		
		$I_C=500\text{mA}, V_{CE}=5\text{V}$	1000		
		BCX38B			
		$I_C=100\text{mA}, V_{CE}=5\text{V}$	2000		
		$I_C=500\text{mA}, V_{CE}=5\text{V}$	4000		
BCX38C					
	$I_C=100\text{mA}, V_{CE}=5\text{V}$	5000			
	$I_C=500\text{mA}, V_{CE}=5\text{V}$	10000			

*Pulsed Conditions: Pulse Width = 300ms, Duty Cycle $\leq 2\%$

TO-92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack

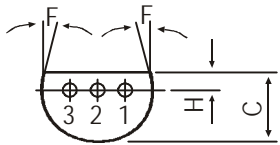


All dimensions in mm

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		± 1.0	
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 SIDE VIEW	Δh	0	1.0		AT TOP OF BODY
COMPONENT ALIGNMENT FRONT VIEW	Δh1	0	1.3		AT TOP OF BODY
TAPE WIDTH	W	18		± 0.5	
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	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	
STAND OFF	H2	0.45		1.45	
CLINCH HEIGHT	H3			3.0	
LEAD PARALLELISM	C1 - C2			0.22	
PULL - OUT FORCE	(P)	6N			

NOTES

- Maximum alignment deviation between leads will not to be greater than 0.2mm.
- Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.
- Holddown tape will not exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
- There will be no more than three (3) consecutive missing components in a tape.
- A tape trailer, having at least three feed holes are provided after the last component in a tape.
- Splices should not interfere with the sprocket feed holes.



- PIN CONFIGURATION**
- COLLECTOR
 - BASE
 - EMITTER

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.

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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