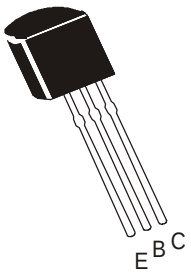
NPN SILICON PLANAR EPITAXIAL DARLINGTON TRANSISTORS

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=25ºC	P_D	625	mW
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +200	ºC

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

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

***Pulsed Conditions: Pulse Width = 300µs, Duty Cycle ≤2%**

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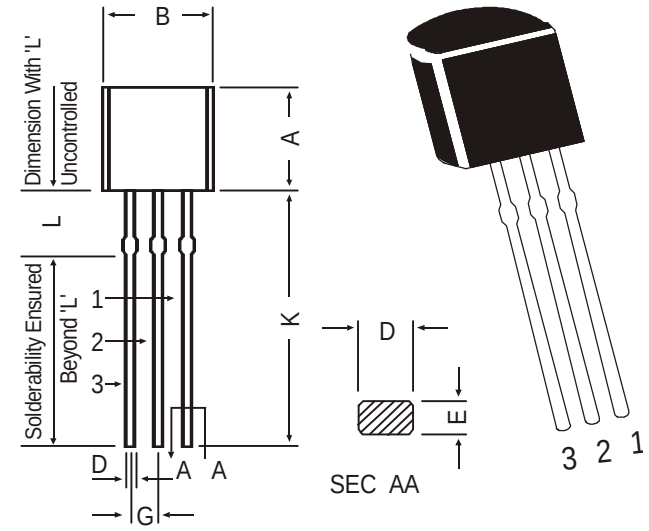
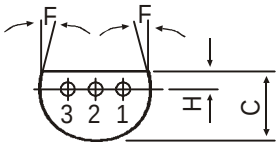


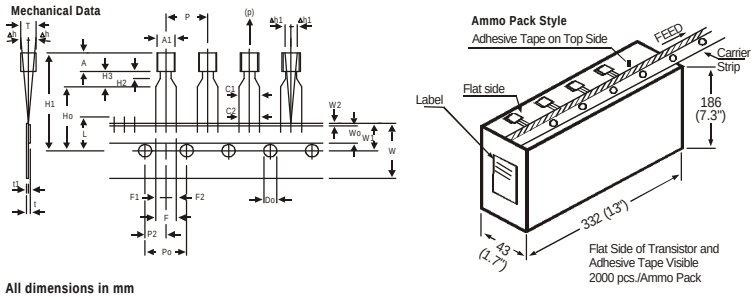


PIN CONFIGURATION
1. COLLECTOR
2. BASE
3. EMITTER

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.

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm

ITEM	SYMBOL	SPECIFICATION MIN.	NOM.	MAX.	TOL .	REMARKS
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	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	
STAND OFF	H2	0.45		1.45		
CLINCH HEIGHT	H3			3.0		
LEAD PARALLELISM	| C1 - C2 |			0.22		
PULL - OUT FORCE	(P)	6N				

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