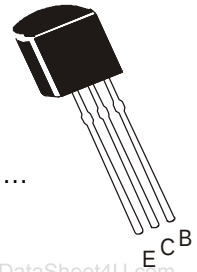
Continental Device India Limited

An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company

NPN SILICON PLANAR EPITAXIAL TRANSISTOR

CSC1047



TO-92
Plastic Package

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Suitable for RF Amplifier in FM/AM Radios

ABSOLUTE MAXIMUM RATINGS (T_a=25ºC)

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	V_{CBO}	30	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	3	V
Collector Current	I_C	15	mA
Power Dissipation @ T_a=25ºC	P_C	*400	mW
Junction Temperature	T_j	150	ºC
Storage Temperature Range	T_{stg}	- 55 to +150	ºC

***P_C=250mW / Potting type: P_C=250mW**

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Base Voltage	V_{CBO}	I_C = 10µA, I_E = 0	30			V
Emitter Base Voltage	V_{EBO}	I_E = 10µA, I_C = 0	3			V
DC Current Gain	*h_{FE}	V_{CE} = 6V, - I_C = 1mA	40		260	
Transition Frequency	f_T	V_{CE} = 6V, - I_C= 1mA	450			MHz
Base Emitter On Voltage	$V_{BE(on)}$	V_{CE} = 6V, - I_C = 1mA		0.72		V
Common Emitter Reverse-Transfer Capacitance	C_{re}	V_{CB} = 6V, - I_E = 1mA, f=10.7MHz			1	pF
Power Gain	PG	V_{CB} =6V, - I_E = 1mA, f=100 MHz	20			dB
Noise Figure	NF	V_{CB} =6V, - I_E = 1mA, f=100 MHz			5	dB

***h_{FE} Classifications** **B : 40 - 110** **C : 65 - 160** **D : 100 - 260**

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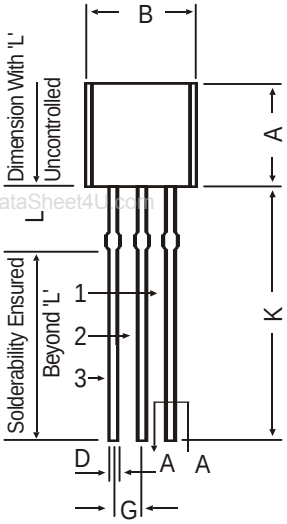

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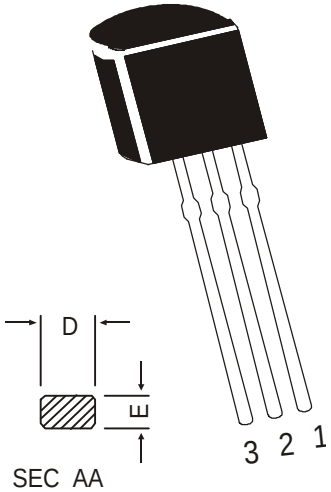
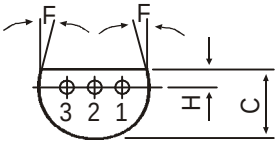


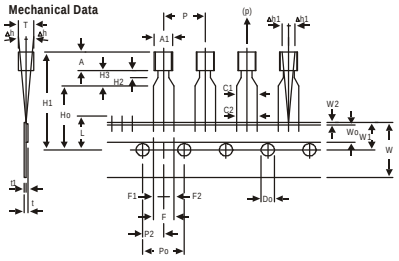


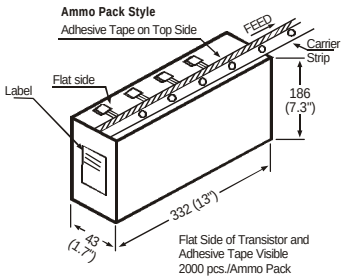
PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

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				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	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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Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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