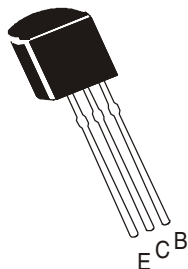


NPN SILICON PLANAR EPITAXIAL TRANSISTOR

CSC2786



TO-92
Plastic Package

For use in FM RF Amplifier

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	V_{CEO}	20	V
Collector Base Voltage	V_{CBO}	30	V
Emitter Base Voltage	V_{EBO}	4	V
Base Current	I_B	20	mA
Collector Current	I_C	20	mA
Power Dissipation @ $T_a=25^\circ\text{C}$	P_C	250	mW
Junction Temperature	T_j	+150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Cut Off Current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			100	nA
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1.0\text{mA}$			0.30	V
Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 6.0\text{V}, I_C = 1.0\text{mA}$		0.72		V
DC Current Gain	h_{FE}	$V_{CE} = 6.0\text{V}, I_C = 1.0\text{mA}$	40		180	
Transition Frequency	f_T	$V_{CE} = 6.0\text{V}, I_C = 1.0\text{mA}$	400			MHz
Power Gain	G_{pe}	$V_{CE} = 6.0\text{V}, I_E = 1.0\text{mA}, R_G = 50\text{k}\Omega$ $f = 100\text{MHz}$	18			dB
Collector to Base Time Constant	$C_c r_{b'b}$	$V_{CE} = 6.0\text{V}, I_E = 1.0\text{mA}, f = 31.9\text{MHz}$			15	ps
Output Capacitance	C_{ob}	$V_{CB} = 6\text{V}, I_E = 0, f = 1\text{MHz}$			1.30	pF
Noise Figure	NF	$V_{CE} = 6.0\text{V}, I_E = 1.0\text{mA}, R_G = 50\text{k}\Omega$ $f = 100\text{MHz}$			5.00	dB

h_{FE} Classifications

MF : 40 - 80

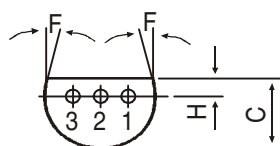
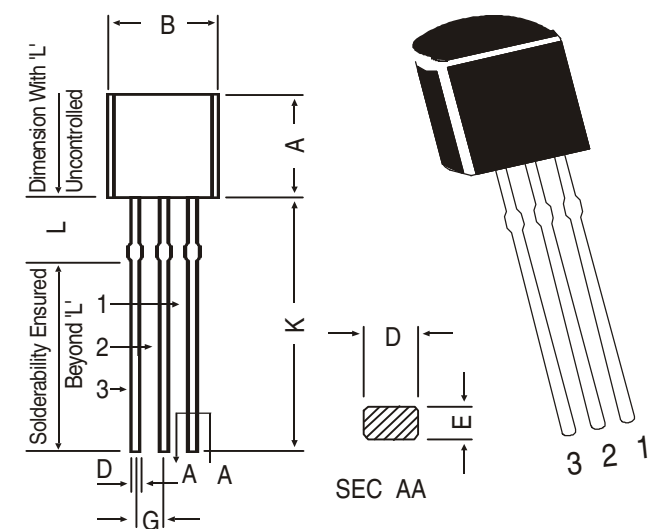
LF : 60 - 120

KF : 90 - 180

TO-92 Plastic Package

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TO-92 Transistors on Tape and Ammo Pack

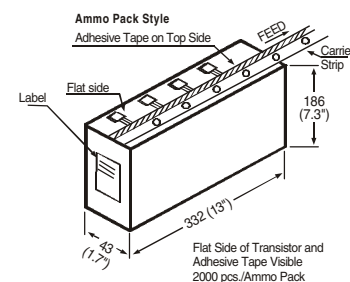
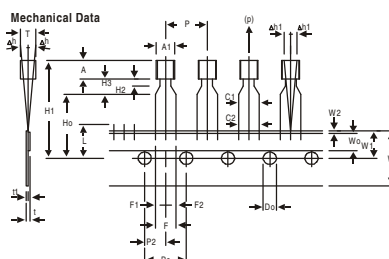


PIN CONFIGURATION

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 dimensions in mm.



All dimensions in mm

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
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	TO BE MEASURED AT BOTTOM OF CLINCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2	6.35			± 0.4	
DISTANCE BETWEEN OUTER LEADS	F	5.08			+ 0.6 - 0.2	
COMPONENT ALIGNMENT SIDE VIEW	Δh	0	1.0			
COMPONENT ALIGNMENT FRONT VIEW	Δh1	0	1.3			AT TOP OF BODY 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	t1 0.3-0.6
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			
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 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

Disclaimer

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