

Continental Device India Limited

An ISO/TS16949 and ISO 9001 Certified Company

NPN SILICON PLANAR EPITAXIAL TRANSISTOR



2N5172

FCB

TO-92 Plastic Package

ABSOLUTE MAXIMUM RATINGS(Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	V _{CEO}	25	V
Collector Base Voltage	V _{CBO}	25	V
Emitter Base Voltage	V _{EBO}	5	V
Collector Current Continuous	I _C	100	mA
Power Dissipation @ Ta=25°C	PD	625	mW
Derate Above 25°C		5	mW/⁰C
Power Dissipation @ Tc=25°C	PD	1.5	W
Derate Above 25°C		12	mW/ºC
Operating And Storage Junction	T _j , T _{stg}	- 55 to +150	٥C
Temperature Range			

THERMAL RESISTANCE

Junction to Ambient	$R_{th(j-a)}$	200	°C/W
Junction to Case	R _{th(j-c)}	83.3	°C/W

ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

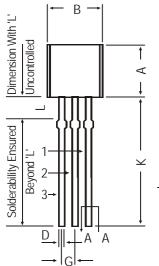
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage	V_{CEO}	I _C =10mA,I _B =0	25			
Collector Cut Off Current	I _{CBO}	$V_{CB}=25V, I_{E}=0$			100	nA
		V _{CB} =25V,I _E =0,Ta=100°C			10	μA
Collector Cut Off Current	I _{CES}	V_{CE} =25V, V_{BE} =0V			100	nA
Emitter Cut Off Current	I _{EBO}	V_{EB} =5V, I_{C} = 0			100	nA
DC Current Gain	h _{FE}	V _{CE} =10V,I _C =10mA	100		500	
Collector Emitter Saturation Voltage	V _{CE(sat)}	I _C =10mA,I _B =1mA			0.25	V
Base Emitter Saturation Voltage	V _{BE(sat)}	I _C =10mA,I _B =1mA		0.75		V
Base Emitter On Voltage	$V_{BE(on)}$	V _{CE} =10V,I _C =10mA	0.5		1.2	V

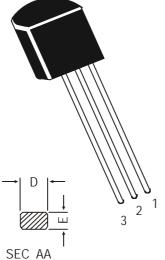
DYNAMIC CHARACTERISTICS

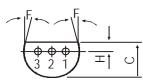
Current Gain-Bandwidth Product	f _T	I _C =2mA, V _{CE} =5V		120		MHz
Collector Base Capacitance	C _{Cb}	I _E =0, V _{CB} =0V,f=1MHz	1.6		10	pF
Small Signal Current Gain	h _{fe}	$V_{CE} = 10V, I_{C} = 10mA$	100		750	
		f=1kHz				

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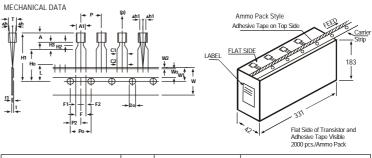
	DIM	MIN.			
	А	4.32			
	В	4.45			
ر	С	3.18			
	D	0.41			
	E	0.35			
	F	5 DI	E		
NC	G	1.14			
	Н	1.14			

PIN CONFIGURATIO

1. BASE

2. COLLECTOR 3. EMITTER

MAX. 5.33 5.20 4.19 0.55 0.50 G 1.40 1.53 12.70 Κ 1.982 2.082 L



TO-92 Transistors on Tape and Ammo Pack

		SPECIFICATION				
ITEM	SYMBOL	MIN.	NOM.	MAX.	TOL .	REMARKS
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	Т	3.9		4.2		
PITCH OF COMPONENT	Р		12.7		%%P1	
FEED HOLE PITCH	Po		12.7		%%P0.3	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO						
COMPONENT CENTRE	P2		6.35		%%P0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER					+0.6	
LEADS	F		5.08		-0.2	
COMPONENT ALIGNMENT SIDE VIEW	∆h		0	1.0		AT TOP OF BODY
COMPONENT ALIGNMENT FRONT VIEW			0	1.3		AT TOP OF BODY
TAPE WIDTH	W		18		%%P0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		%%P0.2	
HOLE POSITION	W1		9		+0.7	
					-0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		%%P0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		%%P0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		%%P0.2	
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 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 IS PERMITTED.
5. ATAPE TRALER, HAVING AT LEAST THREE FEED HOLES IS REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.

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

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