

TÜV MANAGEMENT SERVICE

An ISO/TS16949 and ISO 9001 Certified Company

NPN SILICON PLANAR EPITAXIAL TRANSISTOR

2N5172

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	P _D	625	mW
Derate Above 25°C		5	mW/ºC
Power Dissipation @ Tc=25°C	P _D	1.5	W
Derate Above 25°C		12	mW/ºC
Operating And Storage Junction	T _j , T _{stg}	- 55 to +150	۰C
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}	$I_C=10$ mA, $I_B=0$	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	μΑ
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

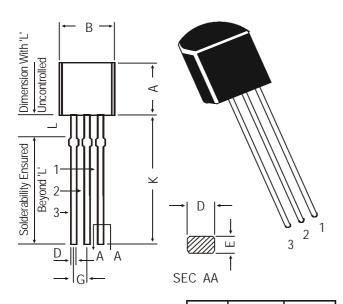
DYNAMIC CHARACTERISTICS

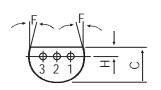
Current Gain-Bandwidth Product	f_T	$I_C=2mA$, $V_{CE}=5V$		120		MHz
Collector Base Capacitance	C_{Cb}	$I_E=0$, $V_{CB}=0$ V, $f=1$ MHz	1.6		10	pF
Small Signal Current Gain	h _{fe}	$V_{CE} = 10V, I_{C} = 10mA$ f=1kHz	100		750	

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TO-92 Transistors on Tape and Ammo Pack





DIM	MIN.	MAX.
Α	4.32	5.33
В	4.45	5.20
С	3.18	4.19
D	0.41	0.55
Е	0.35	0.50
F	5 D	EG
G	1.14	1.40
Н	1.14	1.53
K	12.70	_
	1 982	2 082

PIN CONFIGURATION

- 1. BASE
- 2. COLLECTOR
- **EMITTER**

DIM	MIN.	MAX.					
Α	4.32	5.33					
В	4.45	5.20					
С	3.18	4.19					
D	0.41	0.55					
Е	0.35	0.50					
F	5 DEG						
G	1.14	1.40					
Н	1.14	1.53					
K	12.70	_					
L	1.982	2.082					
A 11 - 12 2							

All diminsions in mm.

MECHANICAL DATA P A A A A B A A B A B A B B	Ammo Pack Style Adhesive Tape on Top Side Carrier Strip 183
- → Po	Flat Side of Transistor and Adhesive Tape Visible 2000 pcs/Ammo Pack

			SPEC	IFICATI	ON	
ITEM	SYMBOL	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		%%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	Δh		0	1.0		AT TOP OF BODY
COMPONENT ALIGNMENT FRONT VIEW	∆h1		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. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES IS REQUIRED AFTER THE LAST COMPONENT.

 6. SPLICES SHALL 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

Notes 2N5172

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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 is 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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