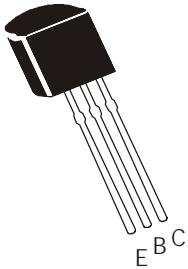


PNP SILICON PLANAR EPITAXIAL TRANSISTORS

**PN2907
PN2907A**

**TO-92
Plastic Package**



Complementary Silicon Transistors for Switching and Linear Applications.

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

DESCRIPTION	SYMBOL	PN2907	PN2907A	UNITS
Collector Emitter Voltage	V_{CEO}	40	60	V
Collector Base Voltage	V_{CBO}	60	60	V
Emitter Base Voltage	V_{EBO}	5	5	V
Collector Current Continuous	I_C	600		mA
Power Dissipation@ Ta=25 ° C	P_D	625		mW
Derate Above 25 ° C		5.0		mW/ ° C
Power Dissipation@ Tc=25 ° C	P_D	1.5		W
Derate Above 25 ° C		12		mW/ ° C
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150		° C

THERMAL RESISTANCE

Junction to ambient	$R_{th(j-a)}$	200		° C/W
Junction to case	$R_{th(j-c)}$	83.3		° C/W

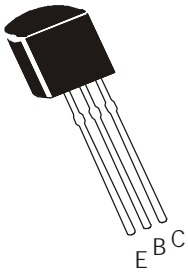
ELECTRICAL CHARACTERISTICS (Ta=25 ° C Unless Specified Otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	PN2907	PN2907A	UNITS
Collector Emitter Voltage	BV_{CEO}	$I_C=10mA, I_B=0$	>40	>60	V
Collector Base Voltage	BV_{CBO}	$I_C=10\mu A, I_E=0$	>60	>60	V
Emitter Base Voltage	BV_{EBO}	$I_E=10\mu A, I_C=0$	>5	>5	V
Collector Cut off Current	I_{CBO}	$V_{CB}=50V, I_E = 0$	<20	<10	nA
		Ta= 150 ° C			
		$V_{CB}=50V, I_E = 0$	<20	<10	μA
	I_{CEX}	$V_{CE} =30V, V_{EB}=0.5V$	<50	<50	nA
	I_{CEO}	$V_{CE}=10V, I_B = 0$	<10	<10	nA
Emitter Cut off Current	I_{EBO}	$V_{EB}=3V, I_C = 0$	<10	<10	nA
Base Cut off Current	I_{BEX}	$V_{CE} =30V, V_{EB}=0.5V$	<50	<50	nA
DC Current Gain	h_{FE}	$V_{CE}=10V, I_C=0.1mA$	>35	>75	
		$V_{CE}=10V, I_C=1mA$	>50	>100	
		$V_{CE}=10V, I_C=10mA$	>75	>100	
		$V_{CE}=10V^*, I_C=150mA$	100-300	100-300	
		$V_{CE}=10V^*, I_C=500mA$	>30	>50	

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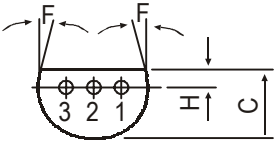
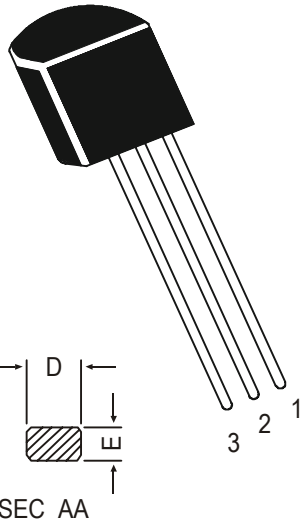
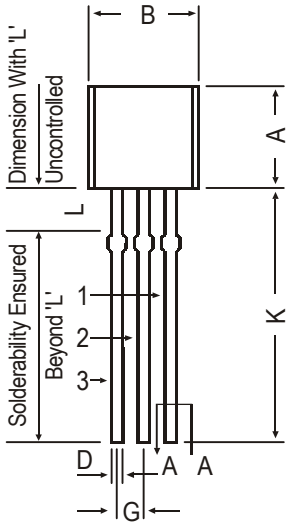
ELECTRICAL CHARACTERISTICS (Ta=25 ° C Unless Specified Otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	PN2907	PN2907A	UNITS
Collector Emitter Saturation Voltage	$V_{CE(sat)}$ *	$I_C=150mA, I_B=15mA$	<0.4	<0.4	V
		$I_C=500mA, I_B= 50mA$	<1.6	<1.6	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$ *	$I_C=150mA, I_B=15mA$	<1.3	<1.3	V
		$I_C=500mA, I_B= 50mA$	<2.6	<2.6	V
DYNAMIC CHARACTERISTICS					
Transition Frequency	f_T	$I_C=50mA, V_{CE}=20V$ $f=100MHz$	>200	>200	MHz
Output Capacitance	C_{ob}	$I_E=0, V_{CB}=10V, f=1MHz$	<8	<8	pF
Input Capacitance	C_{ib}	$I_C=0, V_{EB}=2V, f=1MHz$	<30	<30	pF
SWITCHING CHARACTERISTICS					
Delay Time	t_d		<10	<10	ns
Rise Time	t_r	$I_C =150mA, I_{B1}= 15mA$	<40	<40	ns
Turn on Time	t_{on}	$V_{CC} =30V$	<50	<50	ns
Storage Time	t_s		<80	<80	ns
Fall Time	t_f	$I_C =150mA, I_{B1}=15mA$	<30	<30	ns
Turn off Time	t_f	$I_{B2}=15mA, V_{CC} =6V$	<110	<110	ns

***Pulse Condition: = Width \leq 300us, Duty Cycle \leq 1%.**

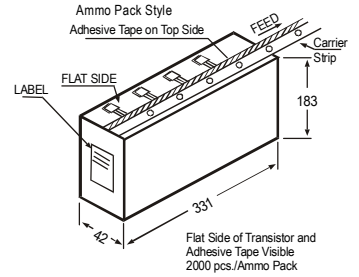
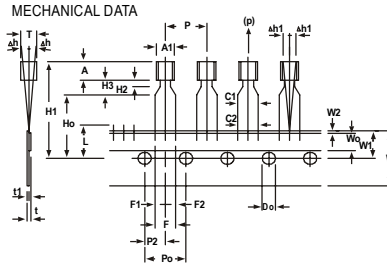
TO-92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack



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.



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			%%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 +0.6 -0.2	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F	5.08				
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			%%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

Disclaimer

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