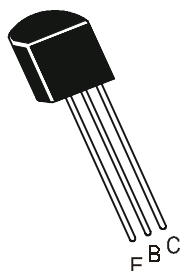


NPN EPITAXIAL PLANAR SILICON HIGH VOLTAGE TRANSISTOR

2N5550



TO-92
Plastic Package

High Voltage NPN Transistor For General Purpose and Telephony Applications.

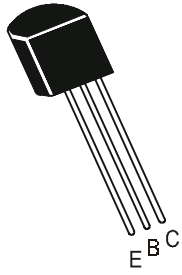
ABSOLUTE MAXIMUM RATINGS(Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	V_{CEO}	140	V
Collector Base Voltage	V_{CBO}	160	V
Emitter Base Voltage	V_{EBO}	6	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	$R_{th(j-a)} (1)$	357	°C/W
Junction to case	$R_{th(j-c)}$	125	°C/W

(1) Rth (j-a) is measured with the device soldered into a typical printed circuit board



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

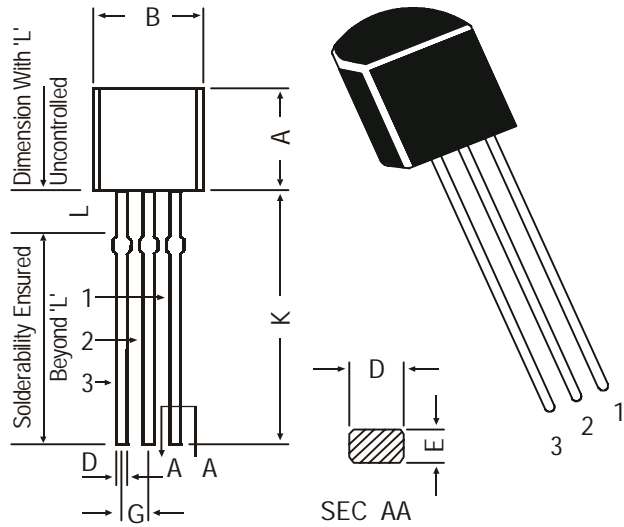
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Base Voltage	V_{CEO}^*	$I_C=1\text{mA}, I_B=0$	140			V
Collector Base Voltage	V_{CBO}	$I_C=100\mu\text{A}, I_E=0$	160			V
Emitter Base Voltage	V_{EBO}	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector Cut off Current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			100	nA
		$T_a=100^\circ\text{C}$ $V_{CB}=100\text{V}, I_E=0$			100	μA
Emitter Cut off Current	I_{EBO}	$V_{BE}=4\text{V}, I_C=0$			50	nA
DC Current Gain	h_{FE}^*	$V_{CE}=5\text{V}, I_C=1\text{mA}$	60			
		$V_{CE}=5\text{V}, I_C=10\text{mA}$	60		250	
		$V_{CE}=5\text{V}, I_C=50\text{mA}$	20			
Base Emitter Saturation Voltage	$V_{BE(sat)}^*$	$I_C=10\text{mA}, I_B=1\text{mA}$			1.0	V
		$I_C=50\text{mA}, I_B=5\text{mA}$			1.2	V
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.15	V
		$I_C=50\text{mA}, I_B=5\text{mA}$			0.25	V

DYNAMIC CHARACTERISTICS

Small Signal Current Gain	$ h_{fe} $	$I_C=1\text{mA}, V_{CE}=10\text{V}$ $f=1\text{KHz}$	50		200	
Transition Frequency	f_T	$I_C=10\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$	100		300	MHz
Output Capacitance	C_{obo}	$I_E=0, V_{CB}=10\text{V}$ $f=1\text{MHz}$			6.0	pF
Input Capacitance	C_{ibo}	$I_C=0, V_{EB}=0.5\text{V}$ $f=1\text{MHz}$			30	pF
Noise Figure	NF	$V_{CE}=5\text{V}, I_C=250\mu\text{A}$ $R=1\Omega, f=10\text{Hz}$ to 15.7kHz			10	dB

***Pulse Condition: Width = 300 μs , Duty Cycle= 2%.**

TO-92 Plastic Package



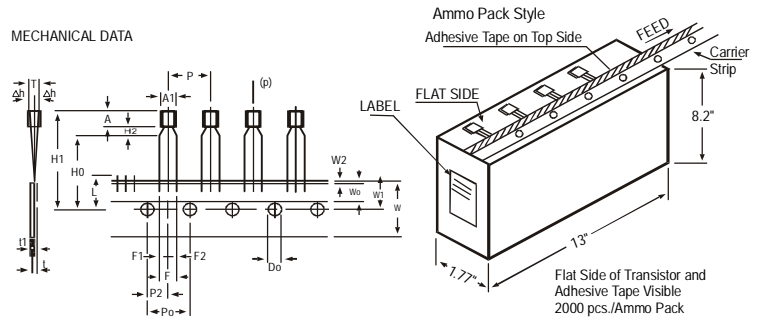
DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—
L	1.982	2.082

PIN CONFIGURATION

1. COLLECTOR
2. BASE
3. EMITTER

All dimensions in mm.

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise

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	
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	AT TOP OF BODY
COMPONENT ALIGNMENT	Δh		0	1		
TAPE WIDTH	W		18		±0.5	
HOLD-DOWN TAPE WIDTH	W0		6		±0.2	
HOLE POSITION	W1		9		+0.7 -0.5	11 0.3 - 0.6
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		
LEAD - TO - LEAD DISTANCE F1,	F2		2.54		+0.4 -0.1	
CLINCH HEIGHT	H2			3		
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 ARE PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES ARE 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

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