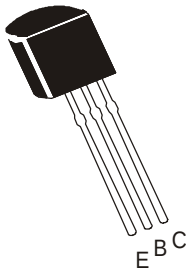
NPN EPITAXIAL PLANAR SILICON HIGH VOLTAGE TRANSISTOR

2N5551
TO-92
Plastic Package
For Lead Free Parts, Device Part # will be Prefixed with "T"



High Voltage NPN Transistor For General Purpose And Telephony Applications.

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

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector -Emitter Voltage	VCEO	160	V
Collector -Base Voltage	VCBO	180	V
Emitter -Base Voltage	VEBO	6.0	V
Collector Current Continuous	IC	600	mA
Power Dissipation @Ta=25 degC	PD	625	mW
Derate Above 25 deg C		5.0	mw/deg C
Power Dissipation @Tc=25 degC	PD	1.5	W
Derate Above 25 deg C		12	mw/deg C
Operating And Storage Junction Temperature Range	Tj, Tstg	-55 to +150	deg C
THERMAL RESISTANCE			
Junction to Case	Rth(j-c)	125	deg C/W
Junction to Ambient	Rth(j-a) (1)	357	deg C/W

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

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector -Emitter Voltage	VCEO	IC=1mA,IB=0	160	-	-	V
Collector -Base Voltage	VCBO	IC=100uA.IE=0	180	-	-	V
Emitter -Base Voltage	VEBO	IE=10uA, IC=-0	6.0	-	-	V
Collector-Cut off Current	ICBO	VCB=160V, IE=0	-	-	50	nA
		Ta=100 deg C				
		VCB=160V, IE=0	-	-	50	uA
Emitter-Cut off Current	IEBO	VEB=4V, IC=0	-	-	50	nA
DC Current Gain	hFE*	IC=1mA,VCE=5V	80	-	-	
		IC=10mA,VCE=5V	80	-	250	
		IC=50mA,VCE=5V	30	-	-	
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=10mA,IB=1mA	-	-	0.15	V
		IC=50mA,IB=5mA	-	-	0.2	V
Base Emitter Saturation Voltage	VBE(Sat) *	IC=10mA,IB=1mA	-	-	1.0	V
		IC=50mA,IB=5mA	-	-	1.0	V

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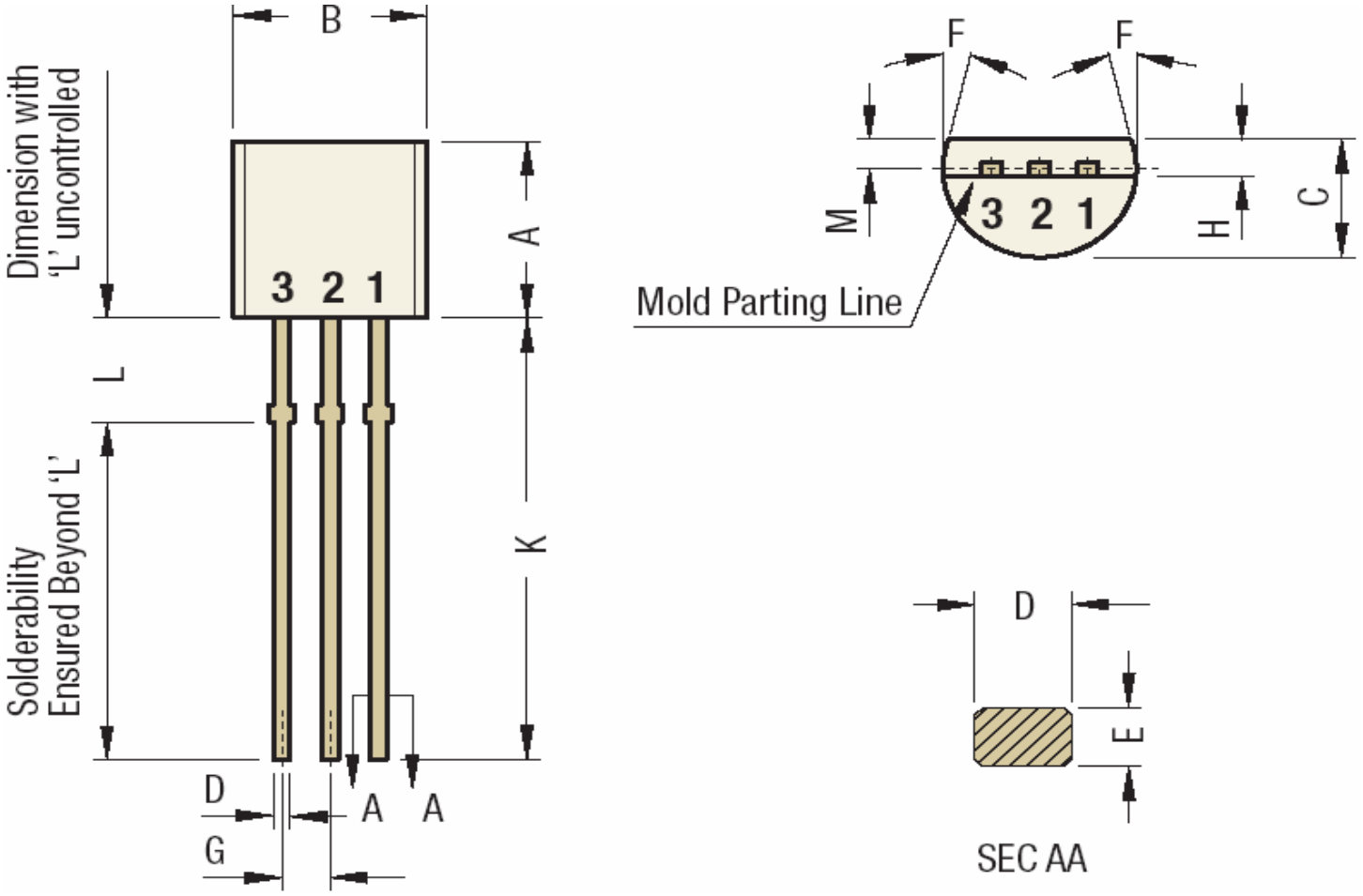
ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified) 2N5551

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Dynamic Characteristics						
Small Signal Current Gain	hfe	IC=1mA, VCE=10V f=1KHz	50	-	200	
Transition Frequency	ft	VCE=10V,IC=10mA, f=100MHz	100	-	300	MHz
Output Capacitance	Cob	VCB=10V, IE=0 f=1MHz	-	-	6.0	pF
Input Capacitance	Cib	VEB=0.5V, IC=0 f=1MHz	-	-	20	pF
Noise Figure	NF	VCE=5V, IC=250uA R=1kohm, f=10Hz to 15.7kHz	-	-	8.0	dB

***Pulse Test: Pulse Width=300us, Duty Cycle=2%**

TO-92 Leaded Plastic Package

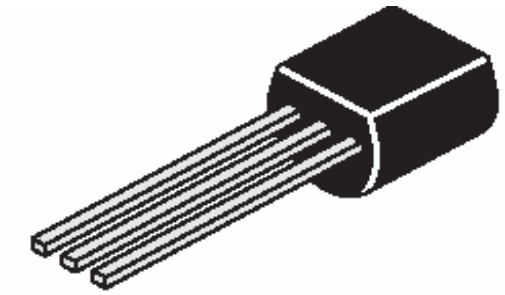


DIM	Min	Max
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.40	0.55
E	0.30	0.55
F	5º	

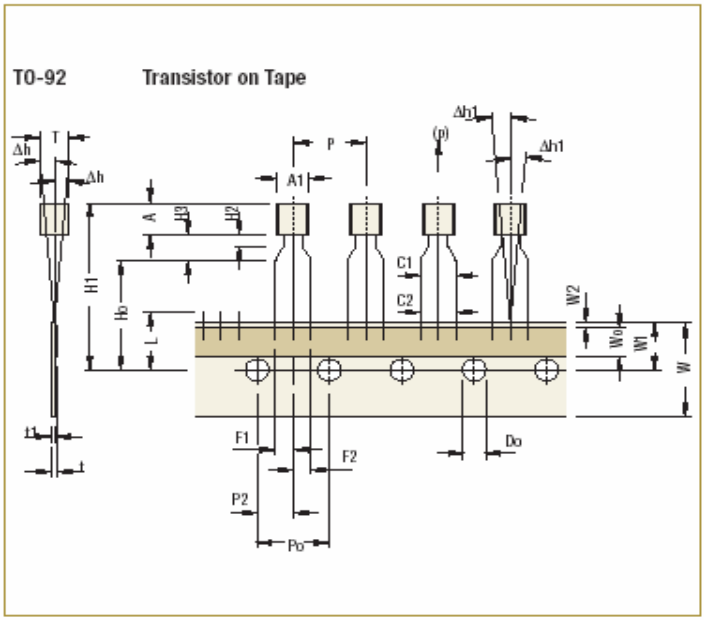
DIM	Min	Max
G	1.14	1.40
H	1.20	1.40
K	12.7	
L	1.982	2.082
M	1.03	1.20

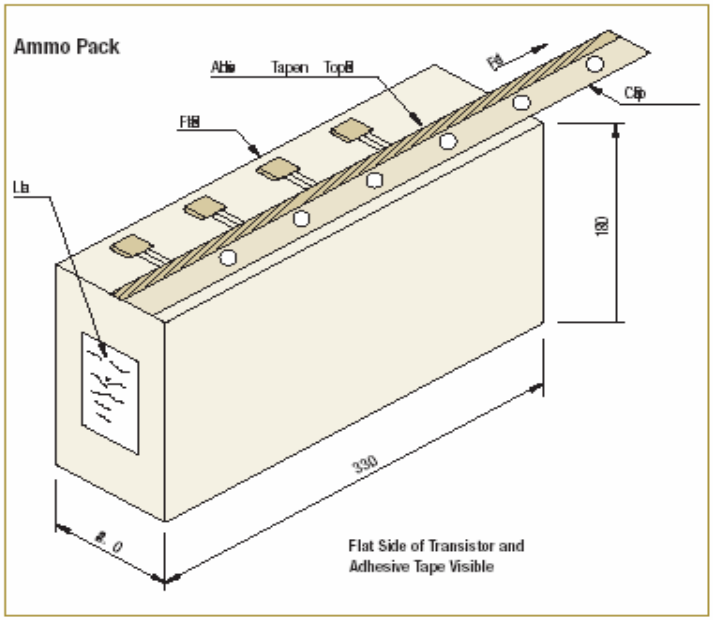
All Dimensions are in mm

Pin 1 **Collector**
Pin 2 **Base**
Pin 3 **Emitter**



TO-92 Tape and Ammo Packaging





All Dimensions are in mm

Tape Specifications

		TO-92			
Item description	Symbol	Min	Nom	Max	Tol
Body width	A1	4.45		5.20	
Body height	A	4.32		5.33	
Body thickness	T	3.18		4.19	
Pitch of component[Cr]	P		12.7		±1.0
Feed hole pitch[§1]	Po		12.7		±0.3
Feed hole center to component centre[§2]	P2		6.35		±0.4
Comp. alignment, Side view[§3]	Dh		0	1.0	
Comp. alignment, Front view[§3]	Dh1		0	1.3	
Tape width[Cr]	W		18		±0.5
Hold down tape width[Cr]	Wo		6		±0.2
Hole position	W1		9		+0.7 -0.5
Hold-down tape position	W2	0.0		0.7	
Lead wire clinch height	Ho		16		±0.5
Component height	H1			24.0	
Length of snipped leads	L			11.0	
Feed hole diameter[Cr]	Do		4		±0.2
Total tape thickness[§4]	t			1.2	
Lead-to-lead distance[Cr]	F1, F2	2.4		2.7	
Stand off	H2	0.45		1.45	
Clinch height	H3			3.0	
Lead parallelismCr	C1-C2			0.22	
Pull-out force	(p)	6N			

Taping Specification

- Maximum alignment deviation between leads not to be greater than 0.20 mm.
- Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.
- Hold down tape not to exceed beyond the edge(s) carrier tape and there shall be no exposure of adhesive.
- No more than 3 consecutive missing components is permitted.
- A tape trailer, having at least three feed holes is required after the last component.
- Splices shall not interfere with the sprocket feed holes.

§1 Cumulative pitch error 1.0 mm/20 pitch.
§2 To be measured at bottom of clinch.
§3 At top of body.
§4 t1 = 0.3 – 0.6 mm
Cr Critical Dimension.

All Dimensions are in mm

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Packaging Information

T & A: Tape and Ammo Pack; T & R: Tape and Red; Bulk: Loose in Poly bags; Tube: Tube and Ammo Pack; k: 1.000

Package/Case Type	Packaging Type	Std. Packing	Inner Carton			Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
TO-92	Bulk	1,000	5K	19x19x8	1.10	80K	43x40x35	20.0
	T&A	2,000	2K	32x4.5x20	0.70	40K	43x40x35	15.20

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Customer Notes

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