ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector−Emitter Breakdown Voltage (Note 1)		$V_{(BR)CEO}$			
(I_C = 1.0 mAdc, I_B = 0)	2N5550		140	−	Vdc
	2N5551		160	−	
Collector−Base Breakdown Voltage		$V_{(BR)CBO}$			
(I_C = 100 μAdc, I_E = 0)	2N5550		160	−	Vdc
	2N5551		180	−	
Emitter−Base Breakdown Voltage		$V_{(BR)EBO}$			
(I_E = 10 μAdc, I_C = 0)			6.0	−	Vdc
Collector Cutoff Current		I_{CBO}			
(V_{CB} = 100 Vdc, I_E = 0)	2N5550		−	100	nAdc
(V_{CB} = 120 Vdc, I_E = 0)	2N5551		−	50	
(V_{CB} = 100 Vdc, I_E = 0, T_A = 100°C)	2N5550		−	100	μAdc
(V_{CB} = 120 Vdc, I_E = 0, T_A = 100°C)	2N5551		−	50	
Emitter Cutoff Current		I_{EBO}	−	50	nAdc
(V_{EB} = 4.0 Vdc, I_C = 0)					
ON CHARACTERISTICS (Note 1)					
DC Current Gain		h_{FE}			
(I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc)	2N5550		60	−	−
	2N5551		80	−	
(I_C = 10 mAdc, V_{CE} = 5.0 Vdc)	2N5550		60	250	
	2N5551		80	250	
(I_C = 50 mAdc, V_{CE} = 5.0 Vdc)	2N5550		20	−	
	2N5551		30	−	
Collector−Emitter Saturation Voltage		$V_{CE(sat)}$			
(I_C = 10 mAdc, I_B = 1.0 mAdc)	Both Types		−	0.15	Vdc
(I_C = 50 mAdc, I_B = 5.0 mAdc)	2N5550		−	0.25	
	2N5551		−	0.20	
Base−Emitter Saturation Voltage		$V_{BE(sat)}$			
(I_C = 10 mAdc, I_B = 1.0 mAdc)	Both Types		−	1.0	Vdc
(I_C = 50 mAdc, I_B = 5.0 mAdc)	2N5550		−	1.2	
	2N5551		−	1.0	
SMALL−SIGNAL CHARACTERISTICS					
Current−Gain — Bandwidth Product		f_T	100	300	MHz
(I_C = 10 mAdc, V_{CE} = 10 Vdc, f = 100 MHz)					
Output Capacitance		C_{obo}	−	6.0	pF
(V_{CB} = 10 Vdc, I_E = 0, f = 1.0 MHz)					
Input Capacitance		C_{ibo}			pF
(V_{EB} = 0.5 Vdc, I_C = 0, f = 1.0 MHz)	2N5550		−	30	
	2N5551		−	20	
Small−Signal Current Gain		h_{fe}	50	200	−
(I_C = 1.0 mAdc, V_{CE} = 10 Vdc, f = 1.0 kHz)					
Noise Figure		NF			dB
(I_C = 250 μAdc, V_{CE} = 5.0 Vdc, R_S = 1.0 kΩ, f = 1.0 kHz)	2N5550		−	10	
	2N5551		−	8.0	

1. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

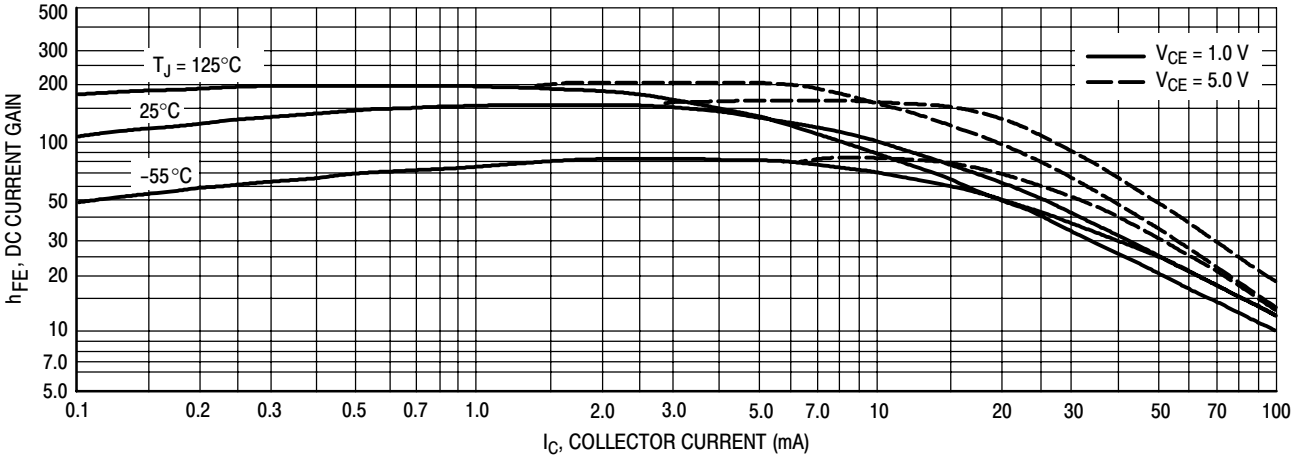


Figure 1. DC Current Gain

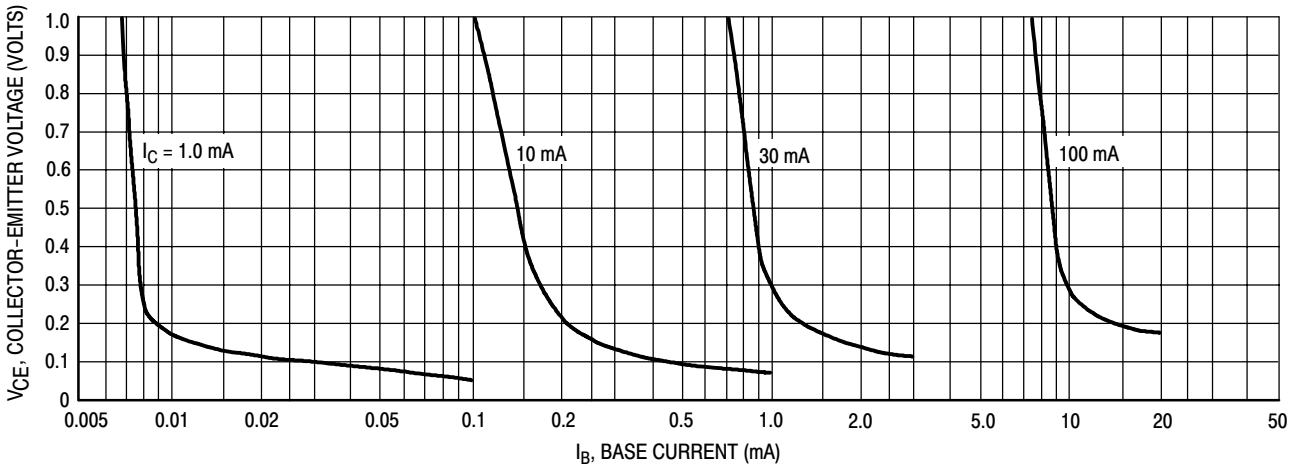


Figure 2. Collector Saturation Region

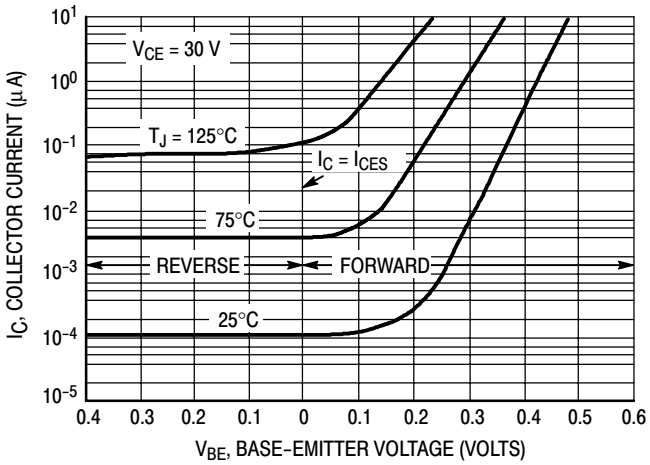


Figure 3. Collector Cut−Off Region

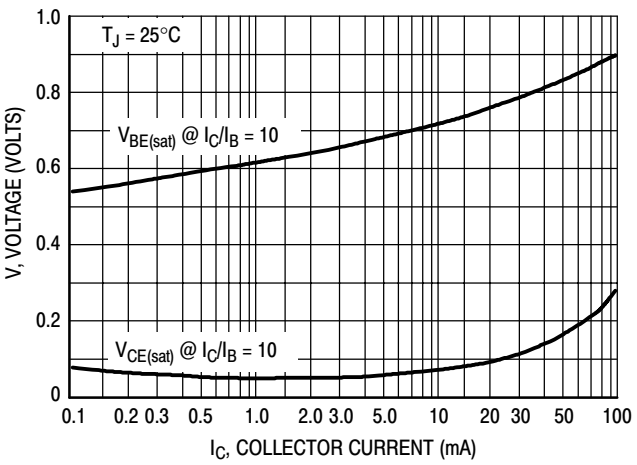


Figure 4. “On” Voltages

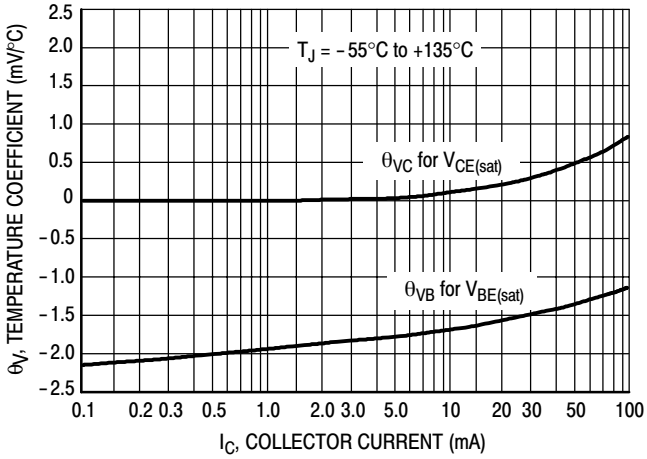
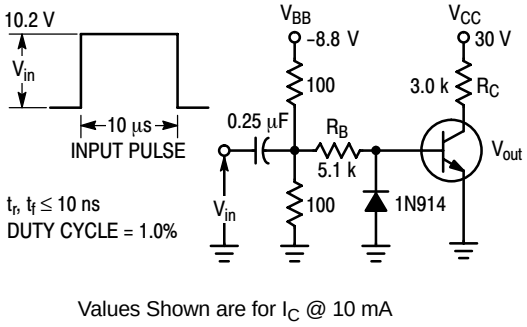


Figure 5. Temperature Coefficients



Values Shown are for I_C @ 10 mA

Figure 6. Switching Time Test Circuit

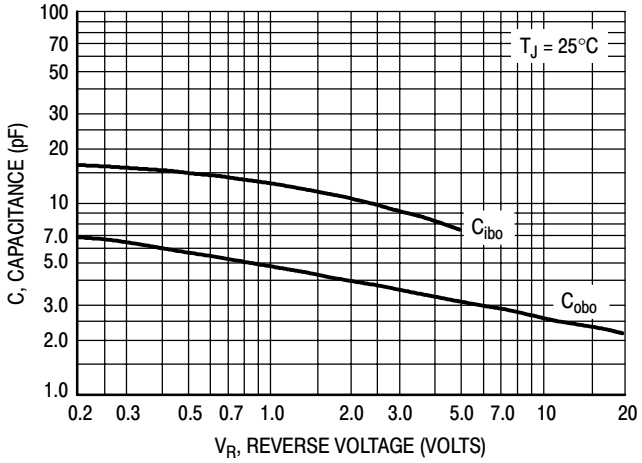


Figure 7. Capacitances

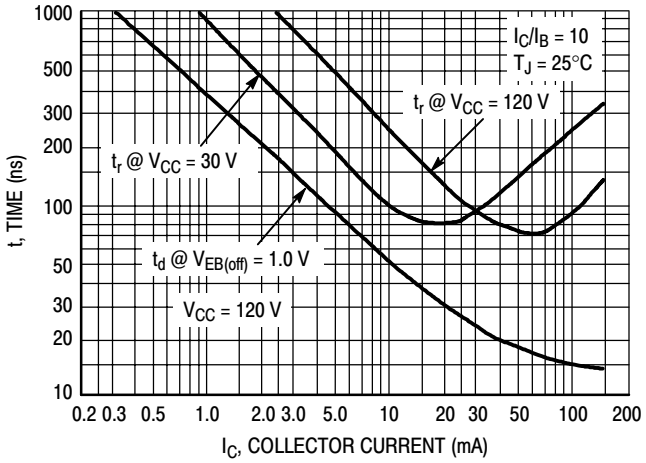


Figure 8. Turn−On Time

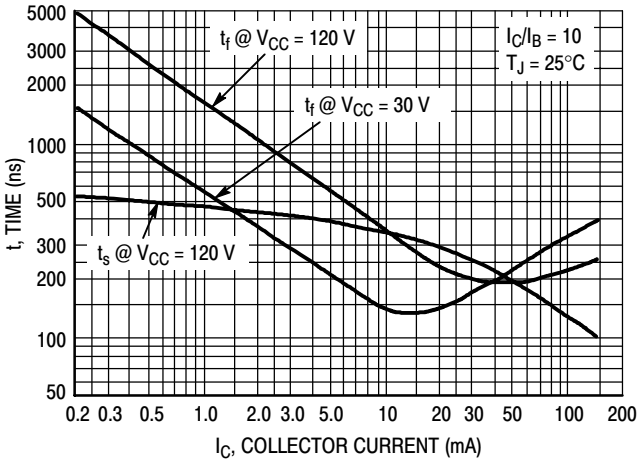


Figure 9. Turn−Off Time

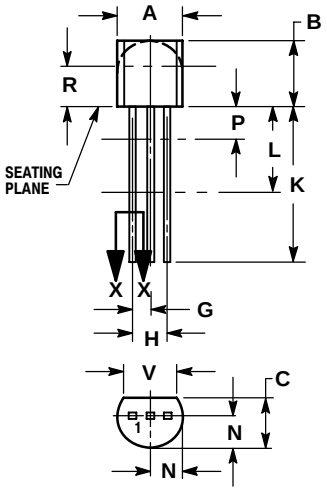
ORDERING INFORMATION

Device	Package	Shipping†
2N5550G	TO−92 (Pb−Free)	5000 Units / Bulk
2N5550RLRPG	TO−92 (Pb−Free)	2000 / Tape & Ammo Box
2N5551G	TO−92 (Pb−Free)	5000 Units / Bulk
2N5551RL1G	TO−92 (Pb−Free)	2000 / Tape & Reel
2N5551RLRAG	TO−92 (Pb−Free)	
2N5551RLRPG	TO−92 (Pb−Free)	2000 / Tape & Ammo Box
2N55551ZL1G	TO−92 (Pb−Free)	

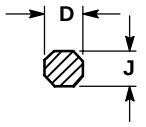
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

PACKAGE DIMENSIONS

TO−92 (TO−226)
CASE 29−11
ISSUE AM



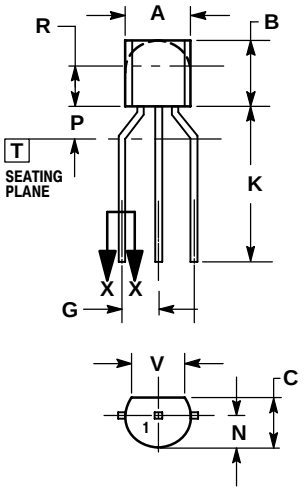
STRAIGHT LEAD
BULK PACK



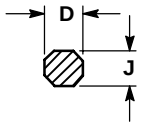
SECTION X−X

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---



BENT LEAD
TAPE & REEL
AMMO PACK



SECTION X−X

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

	MILLIMETERS	
DIM	MIN	MAX
A	4.45	5.20
B	4.32	5.33
C	3.18	4.19
D	0.40	0.54
G	2.40	2.80
J	0.39	0.50
K	12.70	---
N	2.04	2.66
P	1.50	4.00
R	2.93	---
V	3.43	---

STYLE 1:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

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